611-TD-588-001

EOSDIS Core System Project

M&O Procedures: Section 14—Production Processing

Interim Update

July 2001

Raytheon Systems Company
Upper Marlboro, Maryland

Preface

This document is an interim update to the Mission Operations Procedures Manual for the ECS Project, document number 611-CD-600-001. This document has not been submitted to NASA for approval, and should be considered unofficial.

The document has been updated to remove references to obsolete tuning parameters and an associated procedure.

Any questions should be addressed to:

Data Management Office
The ECS Project Office
Raytheon Systems Company
1616 McCormick Drive
Upper Marlboro, Maryland 20774-5301

This page intentionally left blank.

14. Production Processing

14.1 Production Processing Process

The Data Processing Subsystem provides a batch processing environment to support the generation of data products. It manages, queues, and executes Data Processing Requests (DPR) on the processing resources at a DAAC. A DPR can be defined as one science processing job. Each DPR encapsulates all of the information needed to execute the processing job. DPRs are submitted from the Planning Subsystem and their processing is triggered by the availability of their input data.

DPRs use Product Generation Executives (PGEs) to perform processing. PGEs result from the integration and test of delivered science algorithms and also user-specific methods in the Data Processing Subsystem. They are encapsulated in the ECS environment through the SDP Toolkit. The Data Processing Subsystem provides the operational interfaces needed to monitor the execution of science software PGEs.

Production Processing requires close monitoring of job processing status/activities and operator intervention as needed to modify job status. In addition it involves monitoring the load on the processing resources to determine whether the load on processing assets is appropriately distributed.

The site M&O Production Monitors use the following principal tools in the Data Processing Subsystem:

a. AutoSys GUI Control Panel - for launching various AutoSys and AutoXpert GUIs.
b. AutoSys GUIs.
    1. Job Activity Console (Ops Console) – for monitoring job processing status/activities and modifying job status.
    2. Alarm Manager – for monitoring and responding to AutoSys alarms.
    3. Job Definition GUI – for determining the ownership of jobs in AutoSys.
    4. Monitors/Browsers – for monitoring job processing status/activities and obtaining reports on job processing status.
c. AutoXpert GUIs.
    1. JobScape – for a Pert-type graphical view of job processing status/activities and for modifying job status.
    2. TimeScape – for a Gantt-type graphical view of job processing status/activities and for modifying job status.
    3. HostScape – for a machine-oriented graphical view of job processing status/activities.

Subsequent sections related to Production Processing address the following topics, including an overview and step-by-step procedures for each topic:

a. Section 14.2 Launching the AutoSys/AutoXpert GUIs and configuring AutoSys screens/displays.
b. Section 14.3 Reviewing hardware status, DPR dependency, the DPR production timeline, alarms, and job activities using AutoSys/AutoXpert GUIs.
c. Section 14.4 Modifying job status.
d. Section 14.5 Reviewing activity and job dependency reports, and defining and running monitors/browsers.
e. Section 14.6 Changing the database maintenance time.
f. Section 14.7 Tuning system parameters.

14.2 Launching the AutoSys/AutoXpert GUIs and Configuring AutoSys Screens/Displays

The AutoSys and AutoXpert GUIs are the principal tools the Production Monitors use for monitoring and controlling activities occurring in Production Processing.

Each procedure outlined will have an **Activity Checklist** table that will provide an overview of the task to be completed. The outline of the **Activity Checklist** is as follows:

Column one - ***Order*** shows the order in which tasks should be accomplished.

Column two - ***Role*** lists the Role/Manager/Operator responsible for performing the task.

Column three - ***Task*** provides a brief explanation of the task.

Column four - ***Section*** provides the *Procedure (P)* section number or *Instruction (I)* section number where details for performing the task can be found.

Column five - ***Complete?*** is used as a checklist to keep track of which task steps have been completed.

Table 14.2-1 provides an Activity Checklist for activities related to Launching the AutoSys/AutoXpert GUIs and Configuring AutoSys Screens/Displays.

Table 14.2-1. Launching the AutoSys/AutoXpert GUIs and Configuring AutoSys Screens/Displays - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Monitor	Launch the AutoSys GUI Control Panel	(P) 14.2.1	
2	Production Monitor	Configure AutoSys/AutoXpert Runtime Options	(P) 14.2.2	
3	Production Monitor	Select Jobs to be Displayed on AutoSys/AutoXpert GUIs	(P) 14.2.3	
4	Production Monitor	Set the Current Job on AutoSys/AutoXpert GUIs	(P) 14.2.4	
5	Production Monitor	Configure HostScape Hardware Groups	(P) 14.2.5	

The process of configuring AutoSys begins when the Production Monitor starts the AutoSys graphical user interface (GUI) Control Panel and changes runtime options or uses the vi editor to modify AutoSys configuration files.

The procedures in this section concern launching the AutoSys GUIs, configuring AutoSys run-time options, and configuring AutoSys hardware groups.

14.2.1 Launch the AutoSys GUI Control Panel

The AutoSys GUI Control Panel is invoked from a UNIX command line prompt. Table 14.2-2 presents (in a condensed format) the steps required to launch the AutoSys GUI Control Panel. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

setenv DISPLAY <clientname>:0.0

a. Use either the X terminal/workstation IP address or the machine-name for the clientname.
b. When using secure shell, the DISPLAY variable is set just once, before logging in to remote hosts. If it were to be reset after logging in to a remote host, the security features would be compromised.

2 In the terminal window, at the command line prompt, start the log-in to the Queuing Server by entering:

/tools/bin/ssh <hostname>

a. Examples of hostnames include **e0sps04**, **g0sps06**, **l0sps03**.
b. If you receive the message, "Host key not found from the list of known hosts. Are you sure you want to continue connecting (yes/no)?" enter **yes** ("y" alone will not work).
c. If you have previously set up a secure shell passphrase and executed **sshremote**, a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears; continue with Step 3.
d. If you have not previously set up a secure shell passphrase, go to Step 4.

3 If a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears, enter:

<Passphrase>

a. Go to Step 5.

4 At the **<*user@remotehost*>'s password:** prompt enter:

<Password>

5 In the terminal window, at the command line, enter:

cd /usr/ecs/ <*MODE*>/COTS/autotree/autouser

a. **<MODE>** is current mode of operation.
   1. TS1 - Science Software Integration and Test (SSI&T)
   2. TS2 - New Version Checkout
   3. OPS - Normal Operations
b. "autouser" is the directory containing the AutoSys configuration files.
c. The path may vary with the specific site installation; e.g., the **autotree** directory may be identified as **autotreeb** at some sites.

6 Set the application environment variables by entering:

setenv ECS_HOME /usr/ecs/

source <AUTOSERV_INSTANCE>.autosys.csh.<hostname>

a. Application home environment is entered.
b. When logging in as a system user (e.g., cmshared), the ECS_HOME variable may be set automatically so it may not be necessary to set it manually.
c. **<AUTOSERV_INSTANCE>** (also called an AUTOSYS instance) is installed as part of the Data Processing Subsystem and is identified by three capital letters.
   1. AUTOSERV instances at the DAACs are typically identified as **FMR**.
   2. Configuration files in the **autouser** directory identify the available AUTOSERV instances. For example, **config.FMR** is the configuration file for AUTOSERV instance **FMR**.

7 Launch the **AutoSys GUI Control Panel** by entering:

cd /usr/ecs/ <MODE>/CUSTOM/utilities

EcDpPrAutosysStart <MODE> <AUTOSERV_INSTANCE>

a. The **AutoSys GUI Control Panel** is displayed.

Table 14.2-2. Launch the AutoSys GUI Control Panel - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Log in to the ECS System using secure shell	**enter text, press Enter**
2	Set the environment variables	**enter text, press Enter**
3	Enter **cd /usr/ecs/ <MODE>/COTS/autotree/autouser**	**enter text, press Enter**

Table 14.2-2. Launch the AutoSys GUI Control Panel - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
4	Enter **source <AUTOSERV_INSTANCE>.autosys.csh.<hostname>**	**enter text, press Enter**
5	Enter **cd /usr/ecs/<MODE>/CUSTOM/utilities**	**enter text, press Enter**
6	Enter **EcDpPrAutosysStart <MODE> <AUTOSERV_INSTANCE>**	**enter text, press Enter**

14.2.2 Configure AutoSys/AutoXpert Runtime Options

The following AutoSys/AutoXpert Runtime Options may be defined by the Production Monitor operator:

a. Refresh Interval - The Refresh Interval is how often the GUI View Region display is updated.
b. Ping Interval - The Ping Interval is defined by how often the connectivity is evaluated.
c. Hang Time - The Hang Time is the length of time jobs continue to be displayed within a machine after they have completed running.
d. Inches/Hour- Inches/Hour specifies how much information is displayed on the screen. All values are initially set to default values by the AutoSys system.

Table 14.2-3 lists the runtime options available for HostScape, TimeScape, and JobScape. Not all options are available for all GUIs.

HostScape displays jobs on a machine-by-machine basis, indicating which AutoSys server/client machines are up and active, and which jobs are running or have recently run on each machine. This interface is used to monitor hardware status in real-time.

TimeScape presents a Gantt-like view of a job processing from a temporal (or time-related) point-of-view. This interface depicts both "command jobs" and "box jobs." It also depicts the nesting of jobs within boxes and the duration of time it will take for jobs to complete. This interface is used to monitor job flow in real-time.

JobScape presents a Pert-like view of job processing from a logical (or job dependency) point of view. This interface depicts both "command jobs" and "box jobs." It also depicts the nesting of jobs within boxes and the dependencies between jobs. This interface can be used to monitor job flow in real-time.

Table 14.2-3. Runtime Options Table

Interface	Refresh Interval	Hangtime	PING	Inches/Hour
HostScape	**X**	**X**	**X**	
TimeScape	**X**			**X**
JobScape	**X**			

Table 14.2-4 presents (in a condensed format) the steps required to configure AutoXpert runtime options. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures (perform only those steps applicable to the interface, as defined in Table 14.2-3.):

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on either **HostScape**, **TimeScape**, or **JobScape** button on the **AutoSys GUI Control Panel**.
   a. The desired **GUI** dialogue box is displayed.

3 Display the **Runtime Options** dialogue box by executing the following menu path:

   Options → Edit Runtime Options

   a. The **Runtime Options** dialogue box is displayed.

4 **Single-click Refresh Interval (Seconds)** and enter a value between **1** and **99999**.
   a. Value is entered.
   b. Default value is **30**
   c. **Reloading Job Data** window reappears every ## seconds.
   d. If Freeze Frame feature is enabled, changes will not take place until it is disabled.

5 **Single-click Ping Interval (Seconds)** (if applicable) and enter a value between **1** and **99999.**
   a. Value is entered.
   b. Default value is **300**
   c. 99999 means no **ping** commands are issued.
   d. If Freeze Frame feature is enabled, changes will not take place until it is disabled.

6 **Single-click Hang Time (Minutes)** (if applicable) and enter a value between **1** and **99999**.
   a. Value is entered.
   b. Default value is **1**.
   c. If Freeze Frame feature is enabled, changes will not take place until it is disabled.

7 **Single-click Inches/Hr (inches)** (if applicable) and enter a value between **1** and ###.
   a. Value is entered.
   b. Default value is **2**.
   c. If Freeze Frame feature is enabled, changes will not take place until is disabled.

8 **Single-click Apply**.
a. The Runtime Options are set.

9 **Single-click OK**.
a. The dialogue box closes.

Table 14.2-4. Configure AutoSys/AutoXpert Runtime Options - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.1
2	Select either **HostScape**, **TimeScape**, or **JobScape**	**single-click**
3	Execute **Options** → **Edit Runtime Options**	**single-click**
4	Select **Refresh Interval (Seconds)**	**single-click**
5	Enter a value between **1** and **99999**	**enter number**
6	Select **Ping Interval (Seconds)** (if applicable)	**single-click**
7	Enter a value between **1** and **99999** (if applicable)	**enter number**
8	Select **Hang Time (Minutes)** (if applicable)	**single-click**
9	Enter a value between **1** and **99999** (if applicable)	**enter number**
10	Select **Inches/Hr (inches)** (if applicable)	**single-click**
11	Enter value (if applicable)	**enter number**
12	Select **Apply**	**single-click**
13	Select **OK**	**single-click**

14.2.3 Select Jobs to be Displayed on AutoSys/AutoXpert GUIs

This section explains how to select jobs to be displayed on AutoSys/AutoXpert GUIs. The Production Monitor can select jobs on the basis of the following criteria:

a. Job Name.
b. Job Status.
c. Machine.

The following default values apply to the job selection criteria until the Production Monitor modifies them:

a. All Jobs.
b. All Statuses.
c. All Machines.

Table 14.2-5 presents (in a condensed format) the steps required to select jobs to be displayed on AutoSys/AutoXpert GUIs. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on either the **HostScape**, **TimeScape**, or **JobScape** button as applicable.
   a. The AutoXpert GUI corresponding to the selected button is displayed.

3 Execute the following menu path:

View → Select Jobs to Display

   a. **Job Selection** dialogue box is displayed.
   b. **Job selection** has the following default settings:
      1. **All Jobs** for **Select by Name**.
      2. **All Statuses** for **Select by Status**.
      3. **All Machines** for **Select by Machine**.
   c. If the default settings are the desired settings, proceed to Step 10.

4 If all jobs are to be displayed on the AutoXpert GUI, verify that the **All Jobs** toggle button is selected.
   a. **Single-click** on the **All Jobs** button to change state from unselected to selected or vice versa.
      1. When the **All Jobs** option is selected, the **All Jobs** button color is yellow.
      2. Leave the **Box Hierarchies: Show Number of Levels** set at **all**.
   b. Proceed to Step 7.

5 If selecting a particular job or set of jobs by name, first verify that the **All Jobs** button is **unselected**.
   a. **Single-click** on the **All Jobs** button to change state from selected to unselected or vice versa.

6 If selecting a particular job or set of jobs by name, in the **Name Matching Patterns** fields enter:

<job name>

   a. The asterisk (*) wildcard character can be used for entering a partial job name.
      1. For example, enter ***OPS*** to select jobs with “OPS” in their name.

7 If jobs are to be displayed on the basis of their status, **single-click** on the appropriate button(s) to select the desired status(es) in the **Select by Status** list.
   a. Options are: **All Statuses, Starting, Running, Success, Failure, Terminated, Restart, Que Wait, Activated, Inactive, On Hold, On Ice**.
   b. Any or all buttons can be selected.
   c. Button turns yellow when selected.

8 If jobs are to be displayed regardless of the machine on which they are running, verify that the **All Machines** toggle button is selected.

a. **Single-click** on the **All Machines** button to change state from unselected to selected or vice versa.
   1. When the **All Machines** option is selected, the **All Machines** button color is yellow.

b. Proceed to Step 10.

9 If jobs are to be displayed on the basis of the machine on which they are running, **single-click** on the name(s) of the desired machine(s) in the **Select by Machine** list.

a. To select multiple machines **press and hold** either the **Ctrl** key or the **Shift** key while **single-clicking** on individual machines in the **Select by Machine** list.

b. Alternatively, to select multiple machines **press** and **hold** either the **Ctrl** key or the **Shift** key then **single-click** on the first machine and drag the cursor to the name of the last machine to be selected and release the mouse button.
   1. Selected machine(s) is (are) highlighted.

10 **Single-click** on the appropriate button from the following selections:

a. **OK** - to accept all specified job selection criteria and dismiss the **Job Selection** dialogue box.
   1. Original AutoXpert GUI is displayed.
   2. Jobs are displayed on the AutoXpert GUI based on the specified selection criteria.

b. **Apply** - to accept all specified job selection criteria without dismissing the **Job Selection** dialogue box.
   1. Repeat Steps 4 through 10 as necessary to specify additional job selection criteria.

c. **Cancel** - to dismiss the **Job Selection** dialogue box without accepting any job selection criteria.
   1. Original AutoXpert GUI is displayed

Table 14.2-5. Select Jobs to be Displayed on AutoSys/AutoXpert GUIs - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.1
2	Select either **HostScape**, **TimeScape**, or **JobScape**	**single-click**
3	Execute **View** → **Select Jobs to Display**	**single-click**
4	Verify that the **All Jobs** toggle button is selected or unselected as applicable	**single-click**
5	Enter ***<job name>*** if applicable	**enter text**
6	Select **Select by Status** toggle button(s) if applicable	**single-click**
7	Verify that the **All Machines** toggle button is selected or unselected as applicable	**single-click**

Table 14.2-5. Select Jobs to be Displayed on AutoSys/AutoXpert GUIs - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
8	Select name(s) of the desired machine(s) in the **Select by Machine** list if applicable	**single-click**
9	Select **OK**	**single-click**

14.2.4 Set the Current Job on AutoSys/AutoXpert GUIs

This section explains how to set the "current job" on AutoSys/AutoXpert GUIs. Setting the current job causes the job name to be displayed in the **Current Job Name** field in the Control Region of the AutoXpert GUI. Subsequently clicking on the **Job Console** button on the AutoXpert GUI causes the **Job Activity Console** GUI (also known as the **Ops Console** GUI) to be displayed with information concerning the current job.

Either of the following two methods can be used to set the current job:

a. Click on the name of a job displayed on an AutoXpert GUI.
b. Set the current job using the AutoXpert GUI pull-down menu.

Table 14.2-6 presents (in a condensed format) the steps required to set the current job on an AutoSys/AutoXpert GUI using the pull-down menu. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.1).
a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on either the **HostScape**, **TimeScape**, or **JobScape** button as applicable.
a. The AutoXpert GUI corresponding to the selected button is displayed.

3 Execute the following menu path:

View → Set Current Job

a. **Set Current Job** dialogue box is displayed.

4 In the **Filter** field enter:

<job name>

a. The asterisk (*) wildcard character can be used for entering a partial job name (e.g., type ***AM1*** to list all jobs with "AM1" in their name).

5 **Single-click** on the **Filter** button.
a. All jobs that meet the criteria specified in the **Filter** field are displayed in the **Jobs** field.

6 **Single-click** on the name of the job to be designated the "current job" from the jobs listed in the **Jobs** field.
   a. The name of the selected job is displayed in the **Selected Job** field of the **Set Current Job** dialogue box.

7 **Single-click** on the appropriate button from the following selections:
   a. **OK** - to accept the selected job and dismiss the **Set Current Job** dialogue box.
      1. Original AutoXpert GUI is displayed.
      2. Selected job is displayed in the **Current Job Name** field in the Control Region of the AutoXpert GUI.
   b. **Apply** - to accept the selected job without dismissing the **Set Current Job** dialogue box.
      1. Selected job is displayed in the **Current Job Name** field in the Control Region of the AutoXpert GUI.
   c. **Cancel** - to dismiss the **Set Current Job** dialogue box without setting a "current job."
      1. Original AutoXpert GUI is displayed

Table 14.2-6. Set the Current Job on AutoSys/AutoXpert GUIs - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.1
2	Select either **HostScape**, **TimeScape**, or **JobScape**	**single-click**
3	Execute **View** → **Set Current Job**	**single-click**
4	Enter ***<job name>***	**enter text**
5	Select the **Filter** button	**single-click**
6	Select the name of the "current job" from those listed in the **Jobs** field	**single-click**
7	Select **OK**	**single-click**

14.2.5 Configure HostScape Hardware Groups

This section explains how to configure AutoSys hardware groups. The default group is "All Machines." If the Production Monitor needs to monitor specific sets of machines, groups may be defined.

Table 14.2-7 presents (in a condensed format) the steps required to configure AutoSys hardware groups. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

cd /usr/ecs/ <*MODE*>/COTS/autotree/autouser

2 Edit the file called **xpert.groups.<AUTOSERV_INSTANCE>** using an appropriate text editor (e.g., vi).

3 Enter:

groupname: <groupname>

4 Enter:

<machine name>

```
Groupname:  Modis
d0pls01
d0sps03
Groupname: SSI&T
d0ais01
d0spg02
```

Figure 14.2-1. AutoSys Hardware Group File Example

(Repeat Step 4 for each item in the group.)

Repeat Steps 3 and 4 for additional groups.

5 Save the file.

6 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.1).
a. The **AutoSys GUI Control Panel** is displayed.

7 **Single-click HostScape**.
a. The **HostScape** GUI page is presented.

8 Display the **Machine Group Selection** dialogue box by executing the following menu path:

View → Select Machine Group

a. The **Machine Group Selection** dialogue box is presented.

9 Select **<machine group>**.
a. The **machine group** is highlighted.

10 **Single-click Apply** button**.**
a. The selected **machine group** is applied.

11 **Single-click OK** button**.**
a. The **Machine Group Selection** dialogue box is closed
b. The **HostScape** display should now show the selected group of machines**.**

Table 14.2-7. Configure HostScape Hardware Groups - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	**cd /usr/ecs/ <MODE>/COTS/autotree/autouser**	**enter text, press Enter**
2	Edit file **xpert.groups.<*AUTOSERV*_INSTANCE>**	**enter text, press Enter**
3	Enter **groupname**: **<groupname>**	**enter text, press Enter**
4	Enter **<machine name >**	**enter text, press Enter**
5	Repeat Steps 3 and 4 as necessary for additional groups/machines	**enter text, press Enter**
6	Save the file	**enter text, press Enter**
7	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.1
8	Select **HostScape**	**single-click**
9	Execute **View** → **Select Machine Group**	**single-click**
10	Select **<machine group>** to be presented	**single-click**
11	Select **Apply**	**single-click**
12	Select **OK**	**single-click**

14.3 Reviewing Hardware Status, DPR Dependency, the DPR Production Timeline, Alarms, and Job Activities Using AutoSys/AutoXpert GUIs

Hardware status is displayed on the AutoXpert HostScape GUI. The Production Monitor uses the HostScape GUI to determine the status of processors, the condition of the AutoSys queue, whether any processors are overloaded while others are idle, whether there are any system problems, etc.

Table 14.3-1 provides an Activity Checklist for activities related to Reviewing Hardware Status, DPR Dependency, the DPR Production Timeline, Alarms, and Job Activities Using AutoSys/AutoXpert GUIs.

Table 14.3-1. Reviewing Hardware Status, DPR Dependency, the DPR Production Timeline, Alarms, and Job Activities Using AutoSys/AutoXpert GUIs - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Monitor	Review Hardware Status Using HostScape	(P) 14.3.1	
2	Production Monitor	Select Hardware Status View Options in HostScape	(P) 14.3.2	
3	Production Monitor	Review DPR Dependencies Using JobScape	(P) 14.3.3	
4	Production Monitor	Change the JobScape View Using the Pull-Down Menu	(P) 14.3.4	
5	Production Monitor	Review the DPR Production Timeline Using TimeScape	(P) 14.3.5	
6	Production Monitor	Review Alarms Using the AutoSys Alarm Manager	(P) 14.3.6	
7	Production Monitor	Select Alarms for Alarm Manager Display	(P) 14.3.7	
8	Production Monitor	Specify Job Selection Criteria for the AutoSys Job Activity Console	(P) 14.3.8	
9	Production Monitor	Review Job Activities Using the AutoSys Job Activity Console	(P) 14.3.9	

14.3.1 Review Hardware Status Using HostScape

Table 14.3-2 presents (in a condensed format) the steps required to review hardware status using AutoXpert HostScape. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **HostScape** button on the **AutoSys GUI Control Panel**.
   a. The **HostScape** GUI page is presented.
   b. View presented is **Normal** View.

3 Review the Control Region (left side of display) to identify color code for status of machines. This code is displayed on the machine box border in the **View Region**.
   a. **MACHINE UP** (active) is Green.
   b. **MACHINE DOWN** (inactive and cannot be reached) is Red.
   c. Machine Inactive is Black**.** (Not shown in Control Region)

4 Review machine type in **View Region**.
   a. The **machine name** is displayed.
   b. Event Server (database server) name appears below list of jobs, if applicable.
   c. Event Processor (AutoSys server/daemon)name appears below list of jobs, if applicable.

5 Review machine boxes in the View Region to ascertain status of individual machines.
   a. The total number of jobs STARTING or RUNNING.
   b. All jobs in a RUNNING state are listed.

6 Review the **Alarm** indicator/buttons of individual machines in the View Region.
   a. If an alarm is present, **single-clicking** alarm buttons brings up the **Alarm Manager**.
   b. Red indicates that an alarm has been generated.
   c. Gray (default color) indicates normal operation.

7 Review machine connection status in the View Region.
   a. Solid black line indicates AutoSys can communicate with the client machine Internet daemon.
   b. Solid red line indicates AutoSys cannot communicate with the client machine Internet daemon; however, the daemon does respond to **ping** commands.
   c. Dashed red line indicates AutoSys cannot communicate with the client machine; machine is probably turned off.

8 Start the exit from **HostScape** by executing the following menu path:

File → Exit

   a. A **HostScape Exit** dialogue box is displayed.

9 **Single-click** on the appropriate button from the following selections:
   a. **OK** - to exit from the **HostScape** GUI.
      1. The **HostScape** GUI is dismissed.
   b. **Cancel** - to return to the **HostScape** GUI.

Table 14.3-2. Review Hardware Status Using HostScape - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.1
2	Select **HostScape**	**single-click**
3	Review Control Region to identify color code for machine status	**observe**
4	Review individual machine data in View Region	**observe**
5	Execute **File → Exit**	**single-click**
6	Select **OK**	**single-click**

14.3.2 Select Hardware Status View Options in HostScape

The View Options provide three methods to view the hardware status:

a. The Normal view (default) displays three rows of machines with job activities.
b. The Global view displays seven rows of machines but not job activities.
c. The Zoom view displays one machine with great detail: Job name, description, status, and commands.

The Production Monitor may select the Global view to monitor the entire system and in the case of a malfunction, use the Zoom view to focus on the specific problem machine.

Table 14.3-3 presents (in a condensed format) the steps required to change the hardware status view in AutoXpert HostScape. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Select global view by executing the following menu path:

View → Select View Level → Global View

a. The **Global** view is displayed.
b. No job information is displayed.

2 Select a machine by **single-clicking** on **<machine name>.**

3 Execute the following menu path:

View → Zoom in Machine

a. The **Zoom** view is displayed.
b. A table of **Job Name**, **Description**, **Status**, and **Commands** is displayed.

4 Observe individual machine data in the table.

5 Select **Dismiss**.

a. The **Global** view is displayed.

6 Display the **Normal** view of hardware status by executing the following menu path:

View → Select View Level → Normal view

a. The **Normal** view is displayed.
b. Limited job information is displayed.

Table 14.3-3. Select Hardware Status View Options in HostScape - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Execute **View** → **Select View Level** → **Global View**	**single-click**
2	Select **<machine name>**	**single-click**
3	Execute **View** → **Zoom in Machine**	**single-click**
4	Review individual machine data in table	**observe**
5	Select **Dismiss**	**single-click**
6	Execute **View** → **Select View Level** → **Normal View**	**single-click**

14.3.3 Review DPR Dependencies Using JobScape

The process of reviewing DPR dependencies begins with the Production Monitor launching AutoXpert JobScape. The JobScape interface is used to monitor job flow in real-time.

Table 14.3-4 presents (in a condensed format) the steps required to review DPR dependencies in AutoXpert JobScape. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **JobScape** button on the **AutoSys GUI Control Panel**.
   a. The **JobScape** GUI page is presented.

3 Review the Control Region (left side of display) to identify **True** or **False** Dependency Legend.
   a. **True** (default **solid** arrow) indicates job dependencies have been met.
   b. **False** (default **dashed** arrow) indicates job dependencies have **not** been met.
      1. Dependency arrows indicate that a job dependency exists for a job. They do not define time-related starting conditions, nor do they describe the type of job dependency, such as success, failure, or running.

4 Review the Job Display for status. The following colors represent the default values:
   a. White indicates job status of **ACTIVATED**.
   b. Dark Blue indicates job status of **INACTIVE** or **ON_HOLD** or **ON_ICE**.
   c. Yellow indicates job status of **QUE_WAIT**.
   d. Orange indicates job status of **RESTART**.

e. Green indicates job status of **STARTING** or **RUNNING**.
f. Red indicates job status of **FAILURE** or **TERMINATED**.
g. Light Blue indicates job status of **SUCCESS**.

5 Review the Job Display for job types:
a. **Rectangle** depicts **Box Job**.
b. **Ellipse** depicts **Command Job**.
c. **Hexagon** depicts **File Watcher Job** (not displayed in ECS implementation of AutoXpert).

6 Select a job by placing the **cursor** on a job and pressing the **left** mouse button.
a. Border around selected job changes to **yellow**.
b. Job name appears in **Current Job Name** area of the Control Region.

7 Review job descendants by placing the **cursor** on a job and pressing the **right** mouse button.
a. Pop-up menu appears with the options **<*job name*>, Show Children, Show All Descendants, Hide All Descendants. Show Job Arrows, Hide Job Arrows, Show Box Arrows, Hide Box Arrows, Job Definition, View Dependencies, Set Simulation, Overrides** [grayed out], **Start Job, Kill Job, Force Start Job, On Hold, Off Hold, On Ice, Off Ice.**

8 Select **Show Children** on the pop-up menu.
a. Job's first level Command and Box Jobs appear.
b. Repeat Step 6 to change job selection.

9 Select **Show All Descendants** on the pop-up menu.
a. Job's Command and Box Jobs appear for all levels.

10 Select **Hide All Descendants** on the pop-up menu.
a. Default view is displayed.
b. All dependents are hidden.

11 To change the JobScape view using the **View** pull-down menu perform the procedure to **Change the JobScape View Using the Pull-Down Menu** (Section 14.3.4).

12 Start the exit from **JobScape** by executing the following menu path:

File → Exit

a. A **JobScape Exit** dialogue box is displayed.

13 **Single-click** on the appropriate button from the following selections:
a. **OK** - to exit from the **JobScape** GUI.
   1. The **JobScape** GUI is dismissed.
b. **Cancel** - to return to the **JobScape** GUI.

Table 14.3-4. Review DPR Dependencies Using JobScape - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.1
2	Select **JobScape**	**single-click**
3	Review Control Region to identify **True** or **False** Dependency Legend and status color code	**observe**
4	Review the job status in View Region	**observe**
5	Select **<job name>**	**single-click**
6	Execute **<job name>** → **Show Children**	**right-click**
7	Review the job status in View Region	**observe**
8	Execute **<job name>** → **Show All Descendants**	**right-click**
9	Review the job status in View Region	**observe**
10	Execute **<job name>** → **Hide All Descendants**	**right-click**
11	Review the job status in View Region	**observe**
12	Change the JobScape view using the pull-down menu if desired	Use procedure in Section 14.3.4
13	Execute **File** → **Exit**	**single-click**
14	Select **OK**	**single-click**

14.3.4 Change the JobScape View Using the Pull-Down Menu

This section explains how to change the view on the JobScape GUI. Changing the view affects the level of detail displayed for each job shown in the View Region of the GUI.

As previously mentioned the view can be changed in some ways by simply clicking with the **right** mouse button on the name of a job displayed on an AutoXpert GUI and selecting the desired option from the pop-up menu. The following options related to changing the view and display levels are displayed on the menu:

a. Show Children.
b. Show All Descendants.
c. Hide All Descendants.
d. Show Job Arrows.
e. Hide Job Arrows.
f. Show Box Arrows.
g. Hide Box Arrows.

Another method for changing the view on the JobScape GUI involves using the **View** pull-down menu. Many of the same choices plus some additional options can be selected using the pull-down menu.

Table 14.3-5 presents (in a condensed format) the steps required to change the JobScape View using the pull-down menu. If you are already familiar with the procedures, you may prefer to

use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 To start selecting a new view execute the following menu path:

View → Set View

a. The following menu options are displayed: **Normal Text View, Small Text View, No Text View, Show Arrows, Hide Arrows, View by Id, View by Name** [grayed out].

2 **Single-click** to select the desired option from the pull-down menu.

a. **Normal Text View** is the default view.
b. **Small Text View** is similar to **Normal Text View** but the text and graphics are smaller.
c. No text is displayed in the **No Text View**, which provides a global or big-picture view of the jobs currently in processing without specifically identifying them by name.
d. **Show Arrows** displays the lines/arrows between jobs.
    1. Is characteristic of the default view.
e. **Hide Arrows** removes the lines/arrows between jobs from the display.
f. **View by Id** changes the display to provide a sequential reference number for each job rather than showing the job name.
g. **View by Name** changes the display to show job names rather than reference numbers.
    1. Is characteristic of the default view.
    2. Is accessible only when the current display is by **Id** number.

3 To start selecting a new display level execute the following menu path:

View → Set Display Levels

a. The following menu options are displayed: **1, 2, 3, 4, 5, All.**

4 **Single-click** to select the desired option from the pull-down menu.

a. **All** is the default type of view.
b. Selecting **1** provides a display of the box level only.
    1. Just the box header is shown.
    2. No command jobs are shown.
c. If any other selection (i.e., **2**, **3**, **4**, **5**, or **All**) is made (in the ECS implementation), the boxes and command jobs with the boxes are displayed.

Table 14.3-5. Change the JobScape View Using the Pull-Down Menu - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Execute **View** → **Set View**	**single-click**
2	Select the desired option	**single-click**
3	Execute **View** → **Set Display Levels**	**single-click**
4	Select the desired option	**single-click**

14.3.5 Review the DPR Production Timeline Using TimeScape

The process of reviewing the DPR Production Timeline begins with the Production Monitor launching AutoXpert TimeScape. The TimeScape interface is used for monitoring actual versus projected job progress in real time.

Table 14.3-6 presents (in a condensed format) the steps required to review the DPR production timeline in AutoXpert TimeScape. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.1).
   a. The AutoSys GUI Control Panel is displayed.

2 **Single-click** on the **TimeScape** button on the **AutoSys GUI Control Panel**.
   a. The **TimeScape** GUI page is presented.
   b. Current time is displayed in red.

3 Review **Actual/Projected** Legend in lower left of the **Control Region** and compare to **View Region**.
   a. **Projected** is a rectangular (blue filled) graphic, to show average job completion time.
   b. **Actual** is a striped (white and blue) ribbon, to show how much of the job has completed.
   c. If stripe is green, job is running.
   d. If stripe is black, job has completed.

4 Review job descendants by placing the **cursor** on a job and pressing the **right** mouse button.
   a. Pop-up menu appears.
   b. An asterisk (*****) indicates that a Box Job's descendants have been hidden.

5 Select **Show Children** on the pop-up menu.
   a. Job's first level Command and Box Jobs appear.

6 Select **Show All Descendants** on the pop-up menu.
   a. Job's Command and Box Jobs appear with all levels.

7 Select **Hide All Descendants** on the pop-up menu.
a. All descendants are removed.

8 Start the exit from **TimeScape** by executing the following menu path:

File → Exit

a. A **TimeScape Exit** dialogue box is displayed.

9 **Single-click** on the appropriate button from the following selections:
a. **OK** - to exit from the **TimeScape** GUI.
1. The **TimeScape** GUI is dismissed.
b. **Cancel** - to return to the **TimeScape** GUI.

Table 14.3-6. Review the DPR Production Timeline Using TimeScape - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.1
2	Select **TimeScape**	**single-click**
3	Review Control Region to identify **Actual/Projected** Legend and status color code	**observe**
4	Review the job status in View Region	**observe**
5	Select **<job name>**	**single-click**
6	Execute **<job name> → Show Children**	**right-click**
7	Review the job status in View Region	**observe**
8	Execute **<job name> → Show All Descendants**	**right-click**
9	Review the job status in View Region	**observe**
10	Execute **<job name> → Hide All Descendants**	**right-click**
11	Review the job status in View Region	**observe**
12	Execute menu path **File → Exit**	**single-click**
13	Select **OK**	**single-click**

14.3.6 Review Alarms Using the AutoSys Alarm Manager

The process of reviewing alarms begins with the Production Monitor starting the AutoSys **Alarm Manager**. The **Alarm Manager** allows the Production Monitor to view alarms as they arrive, provide a response, and change the alarm status. The Alarm Manager is also configurable for the types of alarms that are displayed.

Table 14.3-7 presents (in a condensed format) the steps required to review alarms using the AutoSys Alarm Manager. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Ops Console** button on the **AutoSys GUI Control Panel**.
   a. The **Ops Console** GUI is displayed.

3 **Single-click** on the **Alarm** button.
   a. The **Alarm Manager** GUI page is presented.
   b. Alarms are displayed in reverse order of occurrence; the most recent alarm appears at the top of the list.

4 Perform the procedure **Select Alarms for Alarm Manager Display** to display a particular selection of alarms on the AutoSys **Alarm Manager** if desired (refer to Section 14.3.7).

5 If desired, verify that the freeze-frame feature of the **Alarm Manager** GUI is activated (**single-click** on the **Freeze Frame** button if necessary).
   a. The freeze-frame feature prevents the **Alarm Manager** from being updated, disrupting the display.

6 **Single-click** on an alarm in the **Alarm List**.
   a. Information for **Alarm Type**, **Job Name**, **Time**, **State**, **Comment** is displayed.
   b. Alarm is displayed in detail in the **Currently Selected Alarm** region of the display.
   c. Refer to Table 14.3-8 for descriptions of AutoSys alarms.

7 If a response is to be documented, **single-click** in the **Response** edit box.

8 If a response is to be documented, enter:

   <text>

   a. Response is entered.

9 Update **Alarm State** by **single-clicking** on the proper radio button.
   a. Options are: **Open, Acknowledged, Closed**.
   b. Alarm State is updated.

10 **Single-click** on the appropriate button from the following selections:
   a. **OK** - to enter all alarm responses and dismiss the **Alarm Manager** GUI.
      1. Job Activity Console (Ops Console) GUI is displayed.

b. **Apply** - to enter all alarm responses without dismissing the **Alarm Manager** GUI.
   1. Repeat Steps 6 through 10 as necessary to review and update additional alarms.
c. **Cancel** - to return to the **Job Activity Console (Ops Console)** GUI without entering any alarm responses.
   1. Job Activity Console (Ops Console) GUI is displayed.

11 If the **Alarm Manager** GUI has not been dismissed, information concerning a job for which there is an alarm can be reviewed by performing Steps 12 through 17.

12 Verify that the alarm has been highlighted in the **Currently Selected Alarm** region of the display (**single-click** on the alarm in the **Alarm List** if necessary).

13 **Single-click** on the **Select Job** button.
a. **Job Activity Console (Ops Console)** GUI is displayed with information concerning the selected job.

14 Review the information displayed on the AutoSys **Job Activity Console (Ops Console)**.

15 Start the exit from the AutoSys **Job Activity Console (Ops Console)** by **single-clicking** on the **Exit** button.
a. **AutoSys JAC Exit** GUI is displayed.

16 **Single-click** on the appropriate button from the following selections:
a. **OK** - to dismiss the **Job Activity Console (Ops Console)** GUI.
   1. AutoSys **Job Activity Console (Ops Console)** GUI is dismissed.
b. **Cancel** - to return to the **Job Activity Console (Ops Console)** GUI.
   1. AutoSys **Job Activity Console (Ops Console)** GUI is displayed.

17 Return to Step 10.

Table 14.3-7. Review Alarms Using the AutoSys Alarm Manager - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.1
2	Select **Ops Console**	**single-click**
3	Select **Alarm**	**single-click**
4	Select alarms for Alarm Manager display if desired	Use procedure in Section 14.5.2 if applicable
5	Select the **Freeze Frame** button if desired	**single-click**
6	Select an alarm in the **Alarm List**	**single-click**
7	Enter **<text>** in the **Response** edit box if desired.	**enter text**

Table 14.3-7. Review Alarms Using the AutoSys Alarm Manager - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
8	Update the **Alarm State** by selecting the proper radio button (**Open**, **Acknowledged**, or **Closed)**	**single-click**
9	Select **Apply**	**single-click**
10	Repeat Steps 3 through 9 to review/update additional alarms	
11	If there is an alarm for which the job information is to be reviewed, verify that the alarm that has been highlighted in the **Alarm List**	**single-click**
12	Select the **Select Job** button	**single-click**
13	Review the information displayed on the **Job Activity Console**	**observe**
14	Select **Exit**	**single-click**
15	Select **OK**	**single-click**

Table 14.3-8. AutoSys Alarms (1 of 3)

ALARM	CODE*	DESCRIPTION
AUTO_PING		The **autoping** command has found a problem in trying to communicate with the Remote Agent on a client machine.
CHASE	514	The **chase** command has found a problem with a job that is supposedly running. The job and problem are listed.
DATABASE_COMM	516	The Remote Agent had trouble sending an event to the database. The job probably ran successfully. Inspect the Remote Agent Log file to determine what happened.
DB_PROBLEM	523	There is a problem with one of the AutoSys databases. This alarm can trigger a user-specified notification procedure.
DB_ROLLOVER	519	AutoSys has rolled over from Dual Server to Single Server Mode. This alarm can trigger a user-specified notification procedure.
DUPLICATE_EVENT	524	Duplicate events have been received in the Event Server. Typically, this means that two Event Processors are running, although “duplicate events” can also be caused by Event Server configuration errors.
EP_HIGH_AVAIL	522	The Event Processor High Availability system has detected some system or network problems. This alarm can trigger a user-specified notification procedure.
EP_ROLLOVER	520	The Shadow Event Processor is taking over processing. This alarm can trigger a user-specified notification procedure.
EP_SHUTDOWN	521	The Event Processor is shutting down. This may be due to a normal shutdown (SEND_EVENT) or due to an error condition. This alarm can trigger a user-specified notification procedure.

Table 14.3-8. AutoSys Alarms (2 of 3)

ALARM	CODE*	DESCRIPTION
EVENT_HDLR_ERROR	507	The Event Processor had an error while processing an event. The job associated with the event should be inspected to see if manual intervention is required.
EVENT_QUE_ERROR	508	An event could not be marked as processed. This is usually due to a problem with the Event Server.
FORKFAIL	501	The Remote Agent was unable to start the user command because it was unable to get a process slot on the machine. AutoSys automatically attempts a RESTART when this happens.
INSTANCE_UNAVAILABLE	525	When different AutoSys instances communicate with each other, this alarm is generated when a receiving AutoSys instance (i.e., its Event Server) cannot be reached. The Event Server is probably down.
JOBFAILURE	503	A job has failed. Its current status is FAILURE.
JOBNOT_ONICEHOLD	509	To place a job either ON_HOLD or ON_ICE, a JOB_ON_HOLD or JOB_ON_ICE event (as applicable) is sent. There are certain conditions when the job cannot be placed ON_HOLD or ON_ICE (e.g., if it is already running). In such cases the alarm is sent alerting the operator that the job could not be put ON_HOLD or ON_ICE (as applicable).
MAXRUNALARM	510	The job has been running for a time greater than that defined in the Maximum Run Alarm (**max_run_alarm**) field for the job. The job may continue to run; however, a warning alarm is generated.
MAX_RETRYS	505	AutoSys continues attempting to restart a job if there are system problems or if the job is configured for application restarts (**n_retrys**). There is a limit to the number of times it will attempt a restart, as defined in the AutoSys configuration files (using **MaxRestartTrys**). When that limit has been reached, the MAX_RETRYS alarm is sent to alert operators that AutoSys has given up trying to start the job. After the problem has been fixed the job must be started manually.
MINRUNALARM	502	The job has completed running in a time less than that defined in the Minimum Run Alarm (**min_run_alarm**) field for the job.
MISSING_HEARTBEAT	513	A job has not sent a HEARTBEAT within the interval specified for the job. The operator should inspect the job to determine the cause.
RESOURCE	512	A resource needed for the job was not available. The types of resources are: (a) number of process slots and (b) file space. Specific information about the problem is in the comment associated with the alarm. If AutoSys encounters a resource problem, it attempts to restart the job after a suitable delay.
STARTJOBFAIL	506	AutoSys was unable to start the job. This is generally due to communication problems with the remote machine. AutoSys attempts to restart the job.

Table 14.3-8. AutoSys Alarms (3 of 3)

ALARM	CODE*	DESCRIPTION
VERSION_MISMATCH	518	Generated by the Remote Agent when calling the routine (e.g., Event Processor, **chase**, **clean_files**, **autoping**, etc.) has a different version number than the Remote Agent. Inspect the Remote Agent Log file for the exact version mismatch. The proper Remote Agent version should be installed.

*The code number is used for viewing the event in the event table in the AutoSys database.

14.3.7 Select Alarms for Alarm Manager Display

Table 14.3-9 presents (in a condensed format) the steps required to select the types of alarms to be displayed on the AutoSys **Alarm Manager** for controlling which alarms are displayed. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.2.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Ops Console** button on the **AutoSys GUI Control Panel**.
   a. The **Ops Console** GUI is displayed.

3 **Single-click** on the **Alarm** button.
   a. The **Alarm Manager** GUI is presented.

4 To display the **Alarm Selection** GUI execute the following menu path:

   View → Select Alarms…

   a. **Alarm Selection** GUI is displayed.
   b. Alarm Selection defaults are…
      1. **All Types** for **Select by Type**
      2. **Open** and **Acknowledged** for **Select by State**
      3. **All Times** for **Select by Time**
   c. If the default settings are the desired settings, proceed to Step 15.

5 If all types of alarms are to be displayed on the **Alarm Manager** GUI, verify that the **All Types** toggle button is selected in the **Select by Type** area.
   a. **Single-click** on the **All Types** button to change state from unselected to selected or vice versa.
      1. When the **All Types** option is selected, the **All Types** button color is yellow.
   b. Proceed to Step 7.

6 If selecting a particular type of alarm or set of alarm types, **single-click** on the name(s) of the desired alarm(s) in the **Select by Type** list.
   a. To select multiple types of alarms **press and hold** either the **Ctrl** key or the **Shift** key while **single-clicking** individual alarms in the **Alarm List**.

b. Alternatively, to select multiple types of alarms **press** and **hold** either the **Ctrl** key or the **Shift** key, then **single-click** on the first type of alarm and drag the cursor to the last type of alarm to be selected and release the mouse button.
   1. Selected alarm(s) is (are) highlighted.
c. Refer to Table 14.3-8 for descriptions of AutoSys alarms.

7 If all alarm states are to be displayed on the **Alarm Manager** GUI, verify that the **All States** toggle button is selected in the **Select by State** area.
a. **Single-click** on the **All States** button to change state from unselected to selected or vice versa.
   1. When the **All States** option is selected, the **All States** button color is yellow.
b. Proceed to Step 9.

8 If selecting a particular alarm state or set of alarm states to be displayed on the **Alarm Manager** GUI, **single-click** on the name(s) of the desired alarm state(s) in the **Select by State** list.
a. Options are **Open**, **Acknowledged**, or **Closed**.
b. Any or all buttons can be selected.
c. Button turns yellow when selected.

9 If alarms at all times are to be displayed on the **Alarm Manager** GUI, verify that the **All Times** toggle button is selected in the **Select by Time** area.
a. **Single-click** on the **All Times** button to change state from unselected to selected or vice versa.
   1. When the **All Times** option is selected, the **All Times** button color is yellow.
b. Proceed to Step 15.

10 If selecting a particular date/time range for alarms to be displayed on the **Alarm Manager** GUI, first verify that the **All Times** toggle button is **unselected**.
a. **Single-click** on the **All Times** button to change state from unselected to selected or vice versa.

11 If selecting a particular date/time range for alarms to be displayed on the **Alarm Manager** GUI, in the **From Date** field enter:

<MM/DD/YYYY>

a. Press **Tab** to advance to the next field.

12 If selecting a particular date/time range for alarms to be displayed on the **Alarm Manager** GUI, in the **From Time** field enter:

<hh:mm>

a. Press **Tab** to advance to the next field.

13 If selecting a particular date/time range for alarms to be displayed on the **Alarm Manager** GUI, in the **To Date field** enter:

<MM/DD/YYYY>

a. Press **Tab** to advance to the next field.

14 If selecting a particular date/time range for alarms to be displayed on the **Alarm Manager** GUI, in the **To Time** field enter:

<hh:mm>

15 **Single-click** on the appropriate button from the following selections:

a. **OK** - to accept all specified alarm selections and dismiss the **Alarm Selection** GUI.
   1. **Alarm Manager** GUI is displayed.

b. **Apply** - to accept all specified alarm selections without dismissing the **Alarm Selection** GUI.
   1. Repeat Steps 5 through 15 as necessary to specify additional alarm selection criteria.

c. **Cancel** - to dismiss the **Alarm Selection** GUI without accepting any alarm selections.
   1. **Alarm Manager** GUI is displayed.

16 If an audible signal is desired for alarm notification, execute the following menu path:

Options → Sound On

a. **Sound On** Toggle button appears yellow when sound function has been activated.

Table 14.3-9. Select Alarms for Alarm Manager Display - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.1
2	Select **Ops Console**	**single-click**
3	Select **Alarm**	**single-click**
4	Execute **View** → **Select Alarms...**.	**single-click**
5	Select type(s) of alarms to be displayed from the **Select by Type** list	**single-click**
6	Select state(s) of alarms to be displayed from the **Select by State** list	**single-click**
7	Select **All Times** for time(s) of alarms to be displayed (if desired)	**single-click**
8	Enter **<MM/DD/YYYY>** in the **From Date** field if selecting a particular date/time range for alarms	**enter text, press Tab**
9	Enter **<hh:mm>** in the **From Time** field if selecting a particular date/time range for alarms	**enter text, press Tab**
10	Enter **<MM/DD/YYYY>** in the **To Date** field if selecting a particular date/time range for alarms	**enter text, press Tab**
11	Enter **<hh:mm>** in the **To Time** field if selecting a particular date/time range for alarms	**enter text, press Tab**
12	Select **Apply**	**single-click**
13	Select **Ok**	**single-click**
14	Execute **Options** → **Sound On** if desired	**single-click**

14.3.8 Specify Job Selection Criteria for the AutoSys Job Activity Console

The process of reviewing Job Activities begins with the Production Monitor launching the **AutoSys GUI Control Panel**. The **Job Activity Console** (**Ops Console**), which is accessible from the control panel, is the primary interface that allows the operator to monitor all jobs that are defined to AutoSys. The **Job Selection** GUI sets the criteria for jobs to be displayed on the **Job Activity Console**.

Table 14.3-10 presents (in a condensed format) the steps required to filter (select) jobs to be displayed on the **Job Activity Console** (**Ops Console**) GUI. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Ops Console** button on the **AutoSys GUI Control Panel**.
   a. The AutoSys **Job Activity Console** (**Ops Console**) is displayed.
   b. No job information is displayed on the **Job Activity Console** when it is brought up using the **Ops Console** button on the **AutoSys GUI Control Panel**.

3 To display the **Job Selection** GUI execute the following menu path:

   View → **Select Jobs**

   a. The **Job Selection** view is displayed.
   b. Job selection has the following default settings:
      1. **All Jobs (Job Name)** for **Select by Name**.
      2. **All Statuses** for **Select by Status**.
      3. **All Machines** for **Select by Machine**.
      4. **Unsorted** for **Sort Order**.
   c. If the default settings are the desired settings, proceed to Step 14.

4 If all jobs are to be displayed on the **Job Activity Console** (**Ops Console**), verify that the **All Jobs** toggle button is selected.
   a. **Single-click** on the **All Jobs** button to change state from unselected to selected or vice versa.
      1. When the **All Jobs** option is selected, the **All Jobs** button color is yellow.
   b. Proceed to Step 10.

5 If selecting a particular job by job name, verify that the **Job Name** button is selected.
   a. **Single-click** on the **Job Name** button to change state from selected to unselected or vice versa.

6 If selecting a particular job by job name, in the **Job Name** field enter:

   <job name>

   a. Proceed to Step 10.

7 If selecting a particular box job by name, verify that the **Box Name** button is selected.
   a. **Single-click** on the **Box Name** button to change state from selected to unselected or vice versa.

8 If selecting a particular box job by name, in the **Box Name** field enter:

<*box name*>

9 If selecting a particular box job by name, in the **Box Levels** field enter:

<number of box levels>

a. Options include any valid positive integer or the word "all."
   1. "0" - indicates that only the top-level box specified in the **Box Name** field is to be displayed.
   2. "1" - indicates that the specified top-level box and all direct descendant boxes and enclosed jobs are to be displayed.
   3. "all" - indicates that all jobs in the box are to be displayed.

10 If jobs are to be displayed on the basis of their status, **single-click** on the appropriate button(s) to select the desired status(es) in the **Select by Status** list.
a. Options are **All Statuses, Starting, Running, Success, Failure, Terminated, Restart, Que Wait, Activated, Inactive, On Hold, On Ice.**
b. Any or all buttons can be selected.
c. Button turns yellow when selected.

11 If jobs are to be displayed regardless of the machine on which they are running, verify that the **All Machines** toggle button is selected.
a. **Single-click** on the **All Machines** button to change state from unselected to selected or vice versa.
   1. When the **All Machines** option is selected, the **All Machines** button color is yellow.
b. Proceed to Step 14.

12 If jobs are to be displayed on the basis of the machine on which they are running, **single-click** on the name(s) of the desired machine(s) in the **Select by Machine** list.
a. To select multiple machines **press and hold** either the **Ctrl** key or the **Shift** key while **single-clicking** on individual machines in the **Select by Machine** list.
b. Alternatively, to select multiple machines **press** and **hold** either the **Ctrl** key or the **Shift** key then **single-click** on the first machine and drag the cursor to the name of the last machine to be selected and release the mouse button.
   1. Selected machine(s) is (are) highlighted.

13 **Single-click** on the desired **Sort Order**.
a. Options are **Start Time**, **End Time**, **Job Name**, **Job Status**, **Machine Name**, and **Unsorted**.

14 **Single-click** on the appropriate button from the following selections:
a. **OK** - to accept all specified job selection criteria and dismiss the **Job Selection** GUI.
   1. **Job Activity Console** (**Ops Console**) is displayed.
b. **Apply** - to accept all specified job selection criteria without dismissing the **Job Selection** GUI.
   1. Repeat Steps 4 through 14 as necessary to specify additional job selection criteria.
c. **Cancel** - to dismiss the **Job Selection** GUI without accepting any job selection criteria.
   1. **Job Activity Console** (**Ops Console**) is displayed.

Table 14.3-10. Specify Job Selection Criteria for the AutoSys Job Activity Console - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.2.1
2	Select **Ops Console**	**single-click**
3	Execute **View** → **Select Jobs**	**single-click**
4	Verify that the **All Jobs** toggle button is selected or unselected as applicable	**single-click**
5	Enter ***<job name>*** if applicable	**enter text**
6	Enter ***<box name>*** if applicable	**enter text**
7	Select **Select by Status** toggle button(s) if applicable	**single-click**
8	Verify that the **All Machines** toggle button is selected or unselected as applicable	**single-click**
9	Select name(s) of the desired machine(s) in the **Select by Machine** list if applicable	**single-click**
10	Select the desired machine(s) in **Select by Machine** area	**single-click**
11	Select the desired **Sort Order**	**single-click**
12	Select **OK**	**single-click**

14.3.9 Review Job Activities Using the AutoSys Job Activity Console

Table 14.3-11 presents (in a condensed format) the steps required to review job activities using the AutoSys **Job Activity Console**. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Specify job selection criteria for the AutoSys **Job Activity Console** - Refer to Section 14.3.1.

2 Review jobs in the **Job List** region of the **Job Activity Console**.
a. **Job Name**, **Description**, **Status**, **Commands**, and **Machine** are displayed in a table.

3 **Single-click** anywhere on a job row to display detailed information.
a. Job details are displayed in the **Currently Selected Job** region of the **Job Activity Console**.

4 Review the data in the **Currently Selected Job** region of the display.
a. Job name (**Currently Selected Job**), **Description**, **Command**, **Start Time** (and date), **End Time** (and date), **Run Time**, **Status**, **Exit Code**, **Next Start**, **Machine**, **Queue Name**, **Priority**, and **Num. of Tries** are displayed in a table.

5 Review **Starting Conditions**.
a. Overall job **Starting Conditions** are displayed.

b. Individual (atomic) starting conditions are displayed, including **Atomic Condition, Current State,** and **T/F** (whether the current state evaluates true or false) are displayed.
c. **Single-clicking** on a specific starting condition causes the **Currently Selected Job** to be updated to reflect the selected "upstream" dependency.

6 Review the **Job Report** region.
a. **Single-click** on the **Summary**, **Event**, and **None** buttons in the **Reports** area to view different reports.
b. Selected report button turns yellow.
c. **Summary** report shows the result of the last execution of the job including the following types of information: **Job Name, Last Start, Last End, Status, Run**.
d. **Event** report lists all events from the last execution of the job including the following types of information: **Status** [Event], **Time, Ntry** [number of tries], **EventState** [e.g., "Processed"], **ProcessTime, Machine**.

7 To change the state of the freeze-frame feature of the **Job Activity Console (Ops Console)** GUI **single-click** on the **Freeze Frame** toggle button.
a. The freeze-frame feature prevents the **Job Activity Console (Ops Console)** GUI from being updated, disrupting the display.
b. Deactivating the freeze-frame feature allows the display to be updated with new information.
c. By default the freeze-frame feature is activated.
d. The **Freeze Frame** toggle button is yellow when the freeze-frame feature is activated.

8 Start the exit from the AutoSys **Job Activity Console (Ops Console)** by **single-clicking** on the **Exit** button.
a. **AutoSys JAC Exit** GUI is displayed.
b. Subsequent procedure sections describe features that are accessible through the **Actions** and **Show** regions of the **Job Activity Console** (refer to Section 14.4).
c. Use and configuration of **Alarm** functions were described in previous sections.

9 **Single-click** on the appropriate button from the following selections:
a. **OK** - to dismiss the **Job Activity Console (Ops Console)** GUI.
1. AutoSys **Job Activity Console (Ops Console)** GUI is dismissed.
b. **Cancel** - to return to the **Job Activity Console (Ops Console)** GUI.
1. AutoSys **Job Activity Console (Ops Console)** GUI is displayed.

Table 14.3-11. Review Job Activities Using the AutoSys Job Activity Console - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Specify job selection criteria for the **Job Activity Console**	Use procedure in Section 14.3.8
2	Review jobs in the **Job List** region	**observe**
3	Select a job row for which detailed information is to be displayed	**single-click**
4	Review the data in the **Currently Selected Job** region	**observe**

Table 14.3-11. Review Job Activities Using the AutoSys Job Activity Console - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
5	Review the data in the **Starting Conditions** region	**observe**
6	Review reports in the **Job Reports** region	**single-click**
7	Select **Exit**	**single-click**
8	Select **OK**	**single-click**

14.4 Modifying Job Status

At times the Production Monitor may need to modify a particular job in any of the following ways:

a. Start the job.
b. Kill the job.
c. Force the job to start.
d. Place the job on hold.
e. Take the job off hold.

The Production Monitor has the option of the following three methods for making those types of modifications to a particular job:

a. Menu accessed by clicking the **right** mouse button on the relevant job name on either the **JobScape** or **TimeScape** GUI.
b. Buttons in the **Actions** region of the **Job Activity Console (Ops Console)**.
c. AutoSys **Send Event** GUI.

In AutoSys terms a control action such as starting or killing a job is accomplished by sending an "event" to the job. An event is basically a message. For example, clicking on the **Start Job** button on the AutoSys **Job Activity Console** begins the process by which AutoSys sends a "start" message to the **Currently Selected Job**.

In addition to the previously mentioned modifications to job status, the buttons in the **Actions** region of the **Job Activity Console (Ops Console)** allow the Production Monitor to generate one of the following types of reports:

a. Jobs Completed.
b. Jobs Waiting.

The menu accessed using the right mouse button on one of the AutoXpert GUIs allows the Production Monitor to initiate either of the following actions (in addition to the previously mentioned modifications to job status):

a. Put the job on ice.
b. Take the job off ice.

The **Send Event** GUI allows the Production Monitor to initiate a very broad range of actions, including any of the following items:

a. Start the job.
b. Kill the job.
c. Force the job to start.
d. Place the job on hold.
e. Take the job off hold.
f. Change the job's status.
g. Change the job's queue priority.
h. Put the job on ice.
i. Take the job off ice.
j. Stop the daemon (stop the Event Processor in an emergency).
k. Set a global value.
l. Send a signal concerning the job.
m. Make a comment (for example, why a job start was forced).

Guidelines for Reporting Unsuccessful Completion of On-Demand Jobs

a. Under any of the following circumstances involving an on-demand job notify User Services of the problem in accordance with the applicable local policy:
    1. Job is killed.
    2. Job terminates and cannot be restarted.
    3. A FAILPGE granule is created.
b. The DAAC is obliged to send an e-mail message to the requester of an unsuccessful on-demand job to explain why the request cannot be fulfilled.

Guideline for Putting Jobs "On Ice" or "On Hold"

a. Ensure that the job to be put either "on hold" or "on ice" is not already in a "starting" or "running" state. (A job that is either "starting" or "running" cannot be put "on hold" or "on ice.")

Guidelines for Force-Starting Jobs

a. Force-start command jobs (e.g., preprocessing or postprocessing) only; do not attempt to force-start a box job.
    1. The software does not support box job force-starts. (Although it may work fine in some cases, it can cause the PDPS database to get out of sync and prevent the DPR (and possibly other DPRs) from running successfully.)
    2. If a box job were force-started, the allocation portion of the preprocessing job would run again. Allocation might choose a different science processor than was chosen the previous time the job ran. Using a different science processor could cause failure of the job.
    3. After each job (and often within each job) the state of the DPR is tracked in various tables in the database. Box job force-starts lack the code needed to check the state of the box and perform the cleanup activities necessary for starting over.
b. Ensure that the GUI has refreshed and the job to be force-started is not already running before trying to force-start a job. (If a job is already running, it should not be force-started.)
    1. If using AutoSys/AutoXpert 3.4.2 or a later version, it should not be possible to force-start jobs that are already running.
c. If any command job other than execution fails, force-start the job that failed only. Do not force start any preceding or succeeding jobs in the box.
d. If execution fails, it is not safe to restart it unless the post-processing job had been put on hold and the failure was detected before postprocessing started running.

e. If execution fails and the failure was not detected before postprocessing started running, the DPR must run to completion as a failed PGE and the DPR must be deleted and recreated.

In any case the Production Monitor may implement certain changes of job status only when the Production Monitor "owns" the job affected by the modification.

Table 14.4-1 provides an Activity Checklist for activities related to Modifying Job Status.

Table 14.4-1. Modifying Job Status - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Monitor	Determine the Ownership of an AutoSys Job	(P) 14.4.1	
2	Production Monitor	Send an Event to a Job	(P) 14.4.2	
3	Production Monitor	Send an Event to a Job from an AutoXpert GUI	(P) 14.4.2.1	
4	Production Monitor	Send an Event to a Job from the Job Activity Console	(P) 14.4.2.2	
5	Production Monitor	Send an Event to a Job from the Send Event GUI	(P) 14.4.2.3	
6	Production Monitor	Cancel a Sent Event	(P) 14.4.3	
7	Production Monitor	Perform Job Management Functions	(P) 14.4.4	

14.4.1 Determine the Ownership of an AutoSys Job

AutoSys is very much ownership-aware. Only the "owner" of a job has "edit" privileges and can make changes to the status of an owned job.

AutoSys recognizes ownership in terms of two factors:

a. User ID.
b. Machine where the operator (user) logged in.

For example, cmshared@g0sps06 identifies the operator who logged in as "cmshared" at machine g0sps06. Any operator who logs in as "cmshared" at another machine (e.g., g0pls01) would not be able to change the status of a job "owned" by cmshared@g0sps06. Consequently, to have any real effect on a job first it is necessary to log in as the job's owner and launch the AutoSys GUIs as that owner.

Table 14.4-2 presents (in a condensed format) the steps required to determine the ownership of a job. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
a. The **AutoSys GUI Control Panel** is displayed.

2 Click on the **JobScape** button on the **AutoSys GUI Control Panel**.
a. The **JobScape** GUI is displayed.

3 Place the mouse cursor on the relevant job and **single-click** and **hold** the **right** mouse button.
a. Pop-up menu appears.
b. Options are **Show Children**, **Show All Descendants**, **Hide All Descendants**, **Show Job Arrows**, **Hide Job Arrows**, **Show Box Arrows**, **Hide Box Arrows**, **Job Definition**, **View Dependencies**, **Set Simulation Overrides** [grayed out], **Start Job**, **Kill Job**, **Force Start Job**, **On Hold**, **Off Hold**, **On Ice**, **Off Ice**.

4 Select **Job Definition** from the pop-up menu (release the right mouse button).
a. The **Job Definition** GUI is displayed.
b. If the current UserID does not "own" (have edit permissions on) the job, a **Job Security MESSAGE** window is displayed.

5 If a **Job Security MESSAGE** window is displayed, **single-click** on the **Ok** button.
a. The **Job Security MESSAGE** window is dismissed.

6 Review the entry in the **Owner** field of the **Job Definition** GUI.
a. Job owner is identified in the **Owner** field of the **Job Definition** GUI.
b. Job name is listed in the **Job Name** field of the **Job Definition** GUI.

NOTE: Jobs should **not** be deleted using the AutoSys **Job Definition** GUI because it does not communicate with the PDPS database.

7 To exit from the **Job Definition** GUI, **single-click** on the **Exit** button.

Table 14.4-2. Determine the Ownership of an AutoSys Job - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select **JobScape**	**single-click**
3	Select **<job name>**	**single-click**
4	Execute **<job name>** → **Job Definition**	**right-click**
5	Review the job owner information in the **Owner** field	**observe**
6	Select **Exit** to quit **Job Definition**	**single-click**

14.4.2 Send an Event to a Job

As previously mentioned there are three methods for making certain types of modifications (e.g., start or kill) to a particular job:

a. Menu accessed by clicking the **right** mouse button on the relevant job name on either the **JobScape** or **TimeScape** GUI.
b. Buttons in the **Actions** region of the **Job Activity Console** (**Ops Console**).
c. AutoSys **Send Event** GUI.

14.4.2.1 Send an Event to a Job from an AutoXpert GUI

Table 14.4-3 presents (in a condensed format) the steps required to send an event to a job from an AutoXpert GUI. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on either the **JobScape** button or the **TimeScape** button (as desired) on the **AutoSys GUI Control Panel**.
   a. The selected GUI (i.e., **JobScape** or **TimeScape**) is displayed.

3 Place the mouse cursor on the relevant job and **single-click** and **hold** the **right** mouse button.
   a. Pop-up menu appears.
   b. Options are **Show Children**, **Show All Descendants**, **Hide All Descendants**, **Show Job Arrows**, **Hide Job Arrows**, **Show Box Arrows**, **Hide Box Arrows**, **Job Definition**, **View Dependencies**, **Set Simulation Overrides** [grayed out], **Start Job**, **Kill Job**, **Force Start Job**, **On Hold**, **Off Hold**, **On Ice**, **Off Ice**.

4 Select the event (e.g., **Force Start Job**, **On Hold**) to be sent to the job from the pop-up menu (release the right mouse button).
   a. A confirmation dialogue box is displayed.

5 **Single-click** on the appropriate button from the following selections:
   a. **Yes** - to send the event to the job.
      1. The confirmation dialogue box is dismissed.
      2. The specified action is taken.
   b. **No** – to dismiss the confirmation dialogue box without sending the event to the job.

6 Start the exit from **JobScape** or **TimeScape** by executing the following menu path:

File → **Exit**

   a. **JobScape** [or **TimeScape**] **Exit** GUI is displayed.

7 **Single-click** on the appropriate button from the following selections:
   a. **OK** - to dismiss the **JobScape** or **TimeScape** GUI.
      1. AutoXpert **JobScape** or **TimeScape** GUI is dismissed.
   b. **Cancel** - to return to the **JobScape** or **TimeScape** GUI.
      1. AutoXpert **JobScape** or **TimeScape** GUI is displayed.

Table 14.4-3. Send an Event to a Job from an AutoXpert GUI - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select either **JobScape** or **TimeScape**	**single-click**
3	Execute **<job name>** → **<event>**	**right-click**
4	Select **Yes**	**single-click**
5	Execute **File** → **Exit** if desired	**single-click**
6	Select **OK** if desired	**single-click**

14.4.2.2 Send an Event to a Job from the Job Activity Console

Table 14.4-4 presents (in a condensed format) the steps required to send an event to a job from the **Job Activity Console** (**Ops Console**). If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Specify job selection criteria for the AutoSys **Job Activity Console** - Refer to Section 14.3.8.

2 Verify that the job with the status to be modified is listed in the **Currently Selected Job** field of the **Job Activity Console** (**Ops Console**).
   a. **Single-click** on the job row in the **Job List** region of the **Job Activity Console** if necessary.
      1. Information concerning the selected job is displayed in the **Currently Selected Job** region of the **Job Activity Console**.

3 **Single-click** on the button corresponding to the desired action to be taken with respect to the selected job (if there is a corresponding button in the **Actions** region of the **Job Activity Console**).
   a. Options are **Start Job**, **Kill Job**, **Force Start Job**, [Put Job] **On Hold**, [Take Job] **Off Hold**, [Display] **Jobs Completed** [Report], [Display] **Jobs Waiting** [Report].
   b. A confirmation dialogue box is displayed.

4 **Single-click** on the appropriate button from the following selections:
   a. **Yes** - to send the event to the job.
      1. The confirmation dialogue box is dismissed.
      2. The specified action is taken.
   b. **No** – to dismiss the confirmation dialogue box without sending the event to the job.

5 Start the exit from the **Job Activity Console (Ops Console)** GUI by **single-clicking** on the **Exit** button.
   a. **AutoSys JAC Exit** GUI is displayed.
   b. Subsequent procedure sections describe features that are accessible through the **Actions** and **Show** regions of the **Job Activity Console** (refer to Section 14.4).
   c. Use and configuration of **Alarm** functions were described in previous sections.

6 **Single-click** on the appropriate button from the following selections:
   a. **OK** - to dismiss the **Job Activity Console (Ops Console)** GUI.
      1. AutoSys **Job Activity Console (Ops Console)** GUI is dismissed.
   b. **Cancel** - to return to the **Job Activity Console (Ops Console)** GUI.
      1. AutoSys **Job Activity Console (Ops Console)** GUI is displayed.

Table 14.4-4. Send an Event to a Job from the Job Activity Console – Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Specify job selection criteria for the **Job Activity Console**	Use procedure in Section 14.3.8
2	Review jobs in the **Job List** region	**Observe**
3	Select a job row for which detailed information is to be displayed	**Single-click**
4	Select the button corresponding to the desired action to be taken	**Single-click**
5	Select **Yes**	**Single-click**
6	Select **Exit** if desired	**single-click**
7	Select **OK** if desired	**single-click**

14.4.2.3 Send an Event to a Job from the Send Event GUI

Table 14.4-5 presents (in a condensed format) the steps required to send an event to a job from the **Send Event** GUI. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Specify job selection criteria for the AutoSys **Job Activity Console** - Refer to Section 14.3.8.

2 In the **Job List** region of the **Job Activity Console single-click** on the job row corresponding to the job with the status to be modified.
   a. Information concerning the selected job is displayed in the **Currently Selected Job** region of the **Job Activity Console**.

3 **Single-click** on the **Send Event** button in the **Actions** Region of the **Job Activity Console**.
   a. **Send Event** GUI is displayed.

b. **Send Event** defaults are:
   1. **Start Job** for **Event Type**.
   2. **Now** for **Time**.
   3. **Normal** for **Send Priority**.
c. If the default settings are the desired settings, proceed to Step 18.

4 Verify that the correct job is listed in the **Job Name** field of the **Send Event** GUI.
a. If not, **single-click** on the **Cancel** button and select the correct job (return to Step 2).

5 **Single-click** on the **Event Type** to be sent to the job in AutoSys.
a. Options are **Start Job, Job On Hold, Job Off Hold, Comment, Stop Demon, Force Start Job, Job On Ice, Job Off Ice, Kill Job, Change Status, Change Priority, Set Global,** and **Set Signal**.
b. Remember that a job with status of either "starting" or "running" cannot be put "on hold" or "on ice."
c. Note that the GUI has an option to **Cancel Previously Sent Event**.

6 To select a future time for sending the event to the job **single-click** on the **Future** button.
a. If **Now** (the default value) is desired, proceed to Step 10.
   1. Current date and time are default values.

7 In the **Date** field enter:

<MM/DD/YYYY>

8 In the **Time** field enter:

<hh:mm>

9 **Single-click** on either the **A.M.** or **P.M.** button as applicable.

10 If **Comment** was selected as the **Event Type**, in the **Comment** field enter:

<comment>

a. **Comment** is a free-form field for entering text to be sent to the specified job.

11 Verify the entry in the **AUTOSERV Instance** field**.**
a. If incorrect enter:

   <AUTOSERV Instance>

b. **AUTOSERV Instance** field specifies the instance of AutoSys to which the event will be sent. (You can send events to instances of AutoSys other than the one you are running.)
c. The current AutoSys instance should be displayed by default in the **AUTOSERV Instance** field.

12 If **Set Global** was selected as the **Event Type**, in the **Global Name** field enter:

<Global Name>

a. The **Global Name** and **Global Value** fields are accessible only if **Set Global** was selected in the **Event Type** region.
b. The name in the **Global Name** field identifies a variable that is made available to all jobs in AutoSys; consequently, it is a "global" variable.

13 If **Set Global** was selected as the **Event Type**, in the **Global Value** field enter:

<Global Value>

14 If either **Send Signal** or **Kill Job** was selected as the **Event Type**, in the **Signal** field enter:

<number of UNIX signal>

a. The **Signal** field is accessible only if **Send Signal** or **Kill Job** was selected in the **Event Type** region.
b. Numbers corresponding to UNIX signals are shown in Table 14.4-6.

15 If **Change Status** was selected as the **Event Type**, **single-click** on the **Status** option menu button and select the desired status.
a. Options are: **Running, Success, Failure, Terminated, Starting,** and **Inactive**.
b. **Status** can be changed only if **Change Status** was selected in the **Event Type** region.

16 If **Change Priority** was selected as the **Event Type**, in the **Queue Priority** field enter:

<Queue Priority>

17 If sending the event to the job is due to an emergency condition, **single-click** on the **High** button in the **Send Priority** area.
a. **Send Priority** refers to the priority for sending the selected event to the job (not the job priority).
b. Options are **Normal** and **High**.
c. **High** priority is reserved for emergencies.

18 **Single-click** on the **Execute** button.
a. A confirmation dialogue box is displayed.

19 **Single-click** on the appropriate button from the following selections:
a. **Yes** - to send the event to the job.
   1. The confirmation dialogue box is dismissed.
   2. The selected event is sent to the specified job.
   3. **Job Activity Console** is displayed.
   4. Once an event has been sent from the **Send Event** dialogue, it may not be possible to cancel or modify it.
b. **No** – to dismiss the confirmation dialogue box and return to the **Send Event** GUI without sending the event to the job.

20 Start the exit from the **Job Activity Console (Ops Console)** GUI by **single-clicking** on the **Exit** button.
a. **AutoSys JAC Exit** GUI is displayed.
b. Subsequent procedure sections describe features that are accessible through the **Actions** and **Show** regions of the **Job Activity Console** (refer to Section 14.4).
c. Use and configuration of **Alarm** functions were described in previous sections.

21 **Single-click** on the appropriate button from the following selections:

a. **OK** - to dismiss the **Job Activity Console (Ops Console)** GUI.
   1. AutoSys **Job Activity Console (Ops Console)** GUI is dismissed.

b. **Cancel** - to return to the **Job Activity Console (Ops Console)** GUI.
   1. AutoSys **Job Activity Console (Ops Console)** GUI is displayed.

Table 14.4-5. Send an Event to a Job from the Send Event GUI – Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Specify job selection criteria for the **Job Activity Console**	Use procedure in Section 14.3.8
2	Review jobs in the **Job List** region	**observe**
3	Select a job row for which detailed information is to be displayed	**single-click**
4	Select **Send Event**	**single-click**
5	Select the **Event Type** to be sent to the job	**single-click**
6	Verify job name in the **Job Name** field	**enter text** if necessary
7	Select either **Now** or **Future**	**single-click**
8	Enter **<date >** if **Future** was selected	**enter text** if applicable
9	Enter **<time>** if **Future** was selected	**enter text** if applicable
10	Select either **A.M.** or **P.M.** if **Future** was selected	**enter text** if applicable
11	Enter **<comment>** if **Comment** was selected as the **Event Type**	**enter text**
12	Enter the **<AUTOSERV Instance>** if incorrect	**enter text**
13	Enter the **<Global Name>** if **Set Global** was selected as the **Event Type**	**enter text**
14	Enter the **<Global Value>** if **Set Global** was selected as the **Event Type**	**enter text**
15	Enter **<number of UNIX signal>** in the **Signal** field if either **Send Signal** or **Kill Job** was selected as the **Event Type**	**enter text**
16	Select the **<status>** if **Change Status** was selected as the **Event Type**	**single-click**
17	Enter the **<Queue Priority>** if **Change Priority** was selected as the **Event Type**	**enter number**
18	Select the **<send priority>** if applicable	**single-click**
19	Select **Execute**	**single-click**
20	Select **Yes**	**single-click**
21	Select **Exit** if desired	**single-click**
22	Select **OK** if desired	**single-click**

Table 14.4-6. UNIX Signals (1 of 2)

NAME	VALUE	DEFAULT	EVENT
HUP	1	Exit	Hangup.
INT	2	Exit	Interrupt.
QUIT	3	Core	Quit.
ILL	4	Core	Illegal Instruction.
TRAP	5	Core	Trace/Breakpoint Trap.
ABRT	6	Core	Abort.
EMT	7	Core	Emulation Trap.
FPE	8	Core	Arithmetic Exception.
KILL	9	Exit	Killed.
BUS	10	Core	Bus Error.
SEGV	11	Core	Segmentation Fault.
SYS	12	Core	Bad System Call.
PIPE	13	Exit	Broken Pipe.
ALRM	14	Exit	Alarm Clock.
TERM	15	Exit	Terminated.
USR1	16	Exit	User Signal 1.
USR2	17	Exit	User Signal 2.
CHLD	18	Ignore	Child Status Changed.
PWR	19	Ignore	Power Fail/Restart.
WINCH	20	Ignore	Window Size Change
URG	21	Ignore	Urgent Socket Condition.
POLL	22	Exit	Pollable Event.
STOP	23	Stop	Stopped (signal).
TSTP	24	Stop	Stopped (user).
CONT	25	Ignore	Continued.
TTIN	26	Stop	Stopped (tty input).
TTOU	27	Stop	Stopped (tty output).
VTALRM	28	Exit	Virtual Timer Expired
PROF	29	Exit	Profiling Timer Expired.
XCPU	30	Core	CPU time limit exceeded.
XFSZ	31	Core	File size limit exceeded.
WAITING	32	Ignore	Concurrency signal reserved by threads library
LWP	33	Ignore	Inter-LWP signal reserved by threads library.
FREEZE	34	Ignore	Check point Freeze
THAW	35	Ignore	Check point Thaw
CANCEL	36	Ignore	Cancellation signal reserved by threads library.

Table 14.4-6. UNIX Signals (2 of 2)

NAME	VALUE	DEFAULT	EVENT
RTMIN	*	Exit	First real time signal
(RTMIN+1)	*	Exit	Second real time signal
(RTMAX-1)	*	Exit	Second-to-last real time signal.
RTMAX	*	Exit	Last real time signal

*The symbols RTMIN through RTMAX are evaluated dynamically in order to permit future configurability.

14.4.3 Cancel a Sent Event

Table 14.4-7 presents (in a condensed format) the steps required to cancel an event that was previously scheduled for *sometime in the future*. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 **Single-click** on the **Send Event** button in the **Actions** Region of the **Job Activity Console**.
   a. **Send Event** GUI is displayed.

2 **Single-click** on the **Event Type** that was sent to the job and is to be cancelled.
   a. Options are **Start Job**, **Job On Hold**, **Job Off Hold**, **Comment**, **Stop Demon**, **Force Start Job**, **Job On Ice**, **Job Off Ice**, **Kill Job**, **Change Status**, **Change Priority**, **Set Global**, and **Set Signal**.

3 **Single-click** on the **Cancel Previously Sent Event** radio button.

4 **Verify Job Name**.
   a. **<Job Name>** appears in the **Job Name** field.
   b. Enter the proper **<Job Name>** if incorrect.

5 **Single-click** on the **Execute** button.
   a. A confirmation dialogue box is displayed requesting permission to proceed with canceling the event.

6 Click on the appropriate button from the following selections:
   a. **yes** - to send the request to cancel the event.
      1. The event is cancelled.
      2. **Job Activity Console (Ops Console)** GUI is displayed.
   b. **no** - to dismiss the dialogue box and return to the **Send Event** GUI without sending the request to cancel the event.

Table 14.4-7. Cancel a Sent Event - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Select the **Send Event** button	**single-click**
2	Select the **Event Type** that was sent to the job and is to be cancelled	**single-click**
3	Select the **Cancel Previously Sent Event** button	**single-click**
4	Verify job name in the **Job Name** field	**enter text** if necessary
5	Select **Execute**	**single-click**
6	Select **yes**	**single-click**

14.4.4 Perform Job Management Functions

The Job Management Client tool is a set of utility programs intended primarily for use by software developers. However, if necessary, it is possible to gain access to the following Job Management Client functions from AutoSys by clicking on the **Client Tool** button in the **Actions** region of the **Job Activity Console**:

a. Create DPR Job.
b. Release DPR Job.
c. Cancel DPR Job.
d. Change DPR ID.
e. View Job Management DPR Queue.
f. Create Ground Event Job.
g. Cancel Ground Event Job.
h. Change Max Jobs for Autosys Instance.

Table 14.4-8 presents (in a condensed format) the steps required to perform job management functions using the AutoSys **Job Activity Console**. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Verify that the job with the status to be modified is listed in the **Currently Selected Job** field of the **Job Activity Console** (**Ops Console**) .
   a. **Single-click** on the job row in the **Job List** region of the **Job Activity Console** if necessary.
      1. Information concerning the selected job is displayed in the **Currently Selected Job** region of the **Job Activity Console**.

2 **Single-click** on the **Client Tool** button in the **Actions** Region of the **Job Activity Console**.
   a. A confirmation dialogue box is displayed.

3 **Single-click yes**.
   a. The dialogue box closes.
   b. The **Jobs Activation User Interface** window is displayed.
   c. The following menu options are displayed:

0) Exit
1) Create Dpr Job
2) Release Dpr Job
3) Cancel Dpr Job
4) Change Dpr Id
5) View Job Management Dpr Queue
6) Create Ground Event Job
7) Cancel Ground Event Job
8) Change Max Jobs for Autosys Instance

4 Enter the number corresponding to the desired function at the **enter an option** prompt.

5 Enter responses to Job Management Client prompts.

6 To quit the Job Management Client enter **0** at the **enter an option** prompt.

Table 14.4-8. Perform Job Management Functions - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Verify job name in the **Currently Selected Job** field of the **Job Activity Console** (**Ops Console**)	**single-click** if necessary
2	Select the **Client Tool** button	**single-click**
3	Select **yes**	**single-click**
4	Enter the number corresponding to the desired function	**enter number, press Enter**
5	Enter responses to Job Management Client prompts	**enter text, press Enter**
6	Enter **0** at the **enter an option** prompt to quit the Job Management Client	**enter text, press Enter**

14.5 Reviewing Activity and Job Dependency Reports, and Defining and Running Monitors/Browsers

The following two types of useful reports can be generated using AutoSys commands:

a. Activity Report.
b. Job Dependency Report.

The AutoSys Activity Report provides the results of the execution of jobs as monitored by AutoSys. It is similar to the Summary Report that is accessible by clicking on the **Summary** button in the **Reports** region of the **Job Activity Console** (**Ops Console**) GUI.

The AutoSys Job Dependency Report reports information about the dependencies and conditions of jobs. It is accessible by clicking on the **Dependent Jobs** button in the **Show** region of the **Job Activity Console** (**Ops Console**) GUI as well as through the use of an AutoSys command.

Table 14.5-1 provides an Activity Checklist for activities related to Reviewing Activity and Job Dependency Reports, and Defining and Running Monitors/Browsers.

Table 14.5-1. Reviewing Activity and Job Dependency Reports, and Defining and Running Monitors/Browsers - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Monitor	Review a Job Activity Report	(P) 14.5.1	
2	Production Monitor	Review a Job Dependency Report	(P) 14.5.2	
3	Production Monitor	Define Monitors/Browsers	(P) 14.5.3	
4	Production Monitor	Run Monitor/Browser from the Monitor/Browser GUI	(P) 14.5.4	
5	Production Monitor	Run Monitor/Browser from the Command Shell	(P) 14.5.5	

14.5.1 Review a Job Activity Report

The process of reviewing an Activity Report begins with the Production Monitor running the AutoSys **autorep** command. The **autorep** command reports information about a job, jobs within boxes, machines, and machine status.

Table 14.5-2 presents (in a condensed format) the steps required to display and review the Activity Report using the AutoSys **autorep** command. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

/usr/ecs/<MODE>/COTS/autosys/bin/autorep -J ALL

a. Directory path may vary with installation.
b. Activity Report is displayed on the UNIX standard output.
c. Enter **<job name>** in place of **ALL** for a specific job.
d. Enter **-M <machine name>** for a Machine Report.
e. Enter **-s** for a summary report.
f. Enter **-d** for a Detailed Report.
g. Enter **-q** for a Query Report.

2 Add **| lp** to the preceding command line to print the document or add **> /<path>/<filename>** to save the report in a file.
a. Activity Report is printed or saved in a file as applicable.

3 Review the Activity Report to determine job states.
a. Completed.
b. Currently running.
c. In the AutoSys queue.

Table 14.5-2. Review a Job Activity Report - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Enter **/usr/ecs/<MODE>/COTS/autosys/bin/autorep -J ALL**	**enter text, press Enter**
2	Review the Activity Report to determine job states	**observe**

14.5.2 Review a Job Dependency Report

The process of reviewing a Job Dependency Report begins with the Production Monitor running the AutoSys **job_depends** command. The **job_depends** command reports information about the dependencies and conditions of a job. The command can be used to determine the current state of a job, its job dependencies, the dependencies and nested hierarchies (for boxes) as specified in the job definition, and a forecast of what jobs will run during a given period of time.

Table 14.5-3 presents (in a condensed format) the steps required to display and review the Job Dependency Report using the AutoSys **job_depends** command. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

/usr/ecs/<MODE>/COTS/autosys/bin/job_depends -c -J <job name>

a. Directory path may vary with installation.
b. Job Dependency report is displayed.
c. Enter **-c** for current condition status.
d. Enter **-d** for dependencies only.
e. Enter **-t** for time dependencies.
f. Enter **-J <job name>** to indicate a specific job as the subject of the report. Use **ALL** for all jobs.

2 Add **| lp** to the preceding command line to print the document or add **> /<path>/<filename>** to save the report in a file.

a. Job Dependency report is printed or saved in a file as applicable.

3 Review the Job Dependency Report to determine job dependencies.

Table 14.5-3. Review a Job Dependency Report - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Enter **/usr/ecs/<MODE>/COTS/autosys/bin/job_depends -c -J <job name>**	**enter text, press Enter**
2	Review the Job Dependency Report to determine job dependencies	**observe**

14.5.3 Define Monitors/Browsers

The current edition of the *Release 6A Operations Tools Manual for the ECS Project (*609-CD-600-001) indicates that ECS does not support the AutoSys monitor/browser capabilities. However, they are functional and the Production Monitor can use them (with no expectation of ECS support if problems are encountered).

Although some Production Monitors may wish to monitor all events, it is more likely that they will prefer to limit monitoring to alarms and changes of job status (e.g., from "running" to "success" or "failure"). The browser function is particularly useful for determining the eventual status of jobs run during the preceding shift or day; for example, which jobs were successful, which jobs failed, and which jobs are still running.

Table 14.5-4 presents (in a condensed format) the steps required to define a monitor or browser. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
   a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Monitor/Browser** button on the **AutoSys GUI Control Panel**.
   a. The **Monitor/Browser** GUI is displayed.
   b. Monitor/Browser defaults are:
      1. **Monitor** for **Mode**.
      2. **ALL EVENTS** for **Types of Events**.
      3. **ALL Jobs** for **Job Selection Criteria**.

3 In the **Name** field enter:

   <name>

4 Verify that the appropriate **Mode** button is selected.
   a. The selected button is yellow.
   b. If necessary, **single-click** on the appropriate **Mode** button.

c. Options are **Monitor** and **Browser**.
   1. If **Monitor** is selected, settings are defined for a monitor.
   2. If **Browser** is selected, settings are defined for a report.

5 To select "all events" for the types of events (in the **Monitor/Browse these Types of Events** area) verify that the **ALL EVENTS** toggle button has been selected.
a. If necessary, **single-click** on the **ALL EVENTS** toggle button.
b. The button is yellow when it has been selected.

--- OR ---

To select **Alarms** and/or **All Job CHANGE-STATUS Events** and/or the available individual **Job Status Event**(s) **single-click** on the appropriate button(s).
a. **Job CHANGE_STATUS Event** options are **Running, Success, Failure, Terminated, Starting, ReStart**.
b. The button(s) is/are yellow when selected.

6 **Single-click** on the appropriate button to select the desired **Job Selection Criteria**.
a. Options are **All Jobs**, **Box with its Jobs**, or **Single Job**.
b. The selected button is yellow.

7 If **Single Job** is specified for **Job Selection Criteria**, in the **Job Name** field enter:

<job name>

8 If a monitor is being defined, verify that the desired **Monitor Options** are selected.
a. If necessary, **single-click** on the appropriate toggle button(s).
   1. Options are Sound and Verification Required for Alarms.
   2. The button(s) is/are yellow when selected.

9 If a browser is being defined, verify that the desired **Browser Time Criteria** are selected.
a. If necessary, **single-click** on the appropriate button to specify whether the report should concern the **Current Run Only**.
   1. Options are **Yes** and **No**.
   2. The selected button is yellow.

10 If **No** was selected for **Current Run Only**, in the **Events After Date/Time** field enter:

<MM/DD/YYYY hh:mm>

11 **Single-click** on the **Save** button.
a. Monitor/browser definition is saved to the database.
b. You must **Save** the configuration first before monitor/browser can be viewed.

12 To run the monitor/browser that has just been defined **single-click** on the **Run MonBro** button.
a. Monitor/browser is displayed in a separate window.

13 Review the monitor/browser results.

14 To exit from a browser or monitor, in the monitor/browser window enter:

Ctrl-C

a. Monitor/browser window is dismissed.

15 To exit from the **Monitor/Browser** GUI **single-click** on the **Exit** button

a. The **Monitor/Browser** GUI is dismissed.

Table 14.5-4. Define Monitors/Browsers - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select the **Monitor/Browser** button	**single-click**
3	Enter monitor or browser **<name>** in the **Name** field	**enter text**
4	Select the **Mode** (**Monitor** or **Browser**)	**single-click**
5	Select the desired option(s) in the **Monitor/Browse these Types of Events** area	**single-click**
6	Select the desired option in the **Job Selection Criteria** area	**single-click**
7	Enter **<job name>** if **Single Job** was selected	**enter text**
8	Select the desired **Monitor Options** (if a monitor is being defined)	**single-click**
9	Select the desired **Browser Time Criteria** (if a browser is being defined)	**single-click**
10	Enter **<MM/DD/YYYY hh:mm>** in the **Events After Date/Time** field if **No** was selected for **Current Run Only**	**enter text**
11	Select the **Save** button	**single-click**
12	Select the **Run MonBro** button to run the monitor/browser that has just been defined	**single-click**
13	Review the monitor/browser results	**observe**
14	Enter **Ctrl-C** in the monitor/browser window to exit from the monitor/browser	**enter text, press Enter**
15	Select the **Exit** button to exit from the **Monitor/Browser** GUI	**single-click**

14.5.4 Run Monitor/Browser from the Monitor/Browser GUI

Table 14.5-5 presents (in a condensed format) the steps required to run a previously defined monitor or browser using the **Monitor/Browser** GUI. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the **AutoSys GUI Control Panel** (refer to Section 14.1.1).
a. The **AutoSys GUI Control Panel** is displayed.

2 **Single-click** on the **Monitor/Browser** button on the **AutoSys GUI Control Panel**.
a. The **Monitor/Browser** GUI page is displayed.

3 If the name of the monitor/browser is known, in the **Name** field enter:

<name>

a. Proceed to Step 7.

4 If the name of the monitor/browser is **not** known, in the **Name** field enter:

%

a. The percent sign is used as a wild card.

5 **Single-click** on the **Search** button.
a. A dialogue box containing a list of previously defined monitors/browsers is displayed.

6 **Double-click** on the name of the monitor/browser in the list displayed in the dialogue box to retrieve the desired monitor/browser.

7 **Single-click** on the **Run MonBro** button.
a. Monitor/browser is displayed in a separate window.

8 Review the monitor/browser results.

9 To exit from the **Monitor/Browser** GUI **single-click** on the **Exit** button
a. The **Monitor/Browser** GUI is dismissed.

10 To exit from a browser or monitor, in the monitor/browser window enter:

Ctrl-C

a. Monitor/browser window is dismissed.

Table 14.5-5. Run Monitor/Browser from the Monitor/Browser GUI - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch the **AutoSys GUI Control Panel**	Use procedure in Section 14.1.1
2	Select the **Monitor/Browser** button	**single-click**
3	Enter monitor or browser **<name>** in the **Name** field	**enter text**
4	Select the **Run MonBro** button	**single-click**
5	Review the monitor/browser results	**observe**
6	Select the **Exit** button to exit from the **Monitor/Browser** GUI	**single-click**
7	Enter **Ctrl-C** to exit from a browser or monitor	**enter text, press Enter**

14.5.5 Run Monitor/Browser from the Command Shell

Table 14.5-6 presents (in a condensed format) the steps required to run a previously defined monitor or browser from the command shell. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

setenv DISPLAY <clientname>:0.0

a. Use either the X terminal/workstation IP address or the machine-name for the clientname.
b. When using secure shell, the DISPLAY variable is set just once, before logging in to remote hosts. If it were to be reset after logging in to a remote host, the security features would be compromised.

2 In the terminal window, at the command line prompt, start the log-in to the Queuing Server by entering:

/tools/bin/ssh <hostname>

a. Examples of hostnames include **e0sps04**, **g0sps06**, **l0sps03**.
b. If you receive the message, "Host key not found from the list of known hosts. Are you sure you want to continue connecting (yes/no)?" enter **yes** ("y" alone will not work).
c. If you have previously set up a secure shell passphrase and executed **sshremote**, a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears; continue with Step 3.
d. If you have not previously set up a secure shell passphrase, go to Step 4.

3 If a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears, enter:

<Passphrase>

a. Go to Step 5.

4 At the **<*user@remotehost*>'s password:** prompt enter:

<Password>

5 In the terminal window, at the command line, enter:

cd /usr/ecs/<MODE>/COTS/autosys/bin

a. **<MODE>** is current mode of operation.
   1. TS1 - Science Software Integration and Test (SSI&T)
   2. TS2 - New Version Checkout
   3. OPS - Normal Operations
b. The path may vary with the specific site installation.
c. The command shell prompt is displayed.

6 At the UNIX command line prompt enter:

monbro -N <name> &

a. Refer to the AutoSys Manual for all options and displays for **monbro** reports.
b. The monitor/browser must have been previously defined using the **Monitor/Browser** GUI.

7 Review the monitor/browser results.

8 Enter **Ctrl-C** to exit from a browser or monitor.

Table 14.5-6. Run Monitor/Browser from the Command Shell - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Log in to the ECS System using secure shell	**Enter text, press Enter**
2	Enter **cd /usr/ecs/<MODE>/COTS/autosys/bin**	**enter text, press Enter**
3	Enter **monbro -N <name> &**	**enter text, press Enter**
4	Review the monitor/browser results	**observe**
5	Enter **Ctrl-C** to exit from a browser or monitor	**enter text, press Enter**

14.6 Changing the Database Maintenance Time

Once a day, the Event Processor (also known as the AutoSys daemon) goes into an internal database maintenance cycle. During this time, the Event Processor does not process any events and waits for completion of the maintenance activities before resuming normal operations. The time of day that this maintenance cycle starts up is pre-set to 3:30 PM. If necessary to change

the time at which it runs, it should be reset to a time of minimal activity. The time required for the database maintenance cycle is approximately one minute.

Table 14.6-1 provides an Activity Checklist for activities related to Changing the Database Maintenance Time.

Table 14.6-1. Changing the Database Maintenance Time - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Monitor Database Administrator	Change AutoSys Event Processor Database Maintenance Time	(P) 14.6.1	

14.6.1 Change AutoSys Event Processor Database Maintenance Time

Table 14.6-2 presents (in a condensed format) the steps required to modify the AutoSys Event Processor database maintenance time. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 At the UNIX command line prompt enter:

setenv DISPLAY <clientname>:0.0

a. Use either the X terminal/workstation IP address or the machine-name for the clientname.
b. When using secure shell, the DISPLAY variable is set just once, before logging in to remote hosts. If it were to be reset after logging in to a remote host, the security features would be compromised.

2 In the terminal window, at the command line prompt, start the log-in to the Queuing Server by entering:

/tools/bin/ssh <hostname>

a. Examples of hostnames include **e0sps04**, **g0sps06**, **l0sps03**.
b. If you receive the message, "Host key not found from the list of known hosts. Are you sure you want to continue connecting (yes/no)?" enter **yes** ("y" alone will not work).
c. If you have previously set up a secure shell passphrase and executed **sshremote**, a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears; continue with Step 3.
d. If you have not previously set up a secure shell passphrase, go to Step 4.

3 If a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears, enter:

<Passphrase>

a. Go to Step 5.

4 At the **<*user@remotehost*>'s password:** prompt enter:

<Password>

5 In the terminal window, at the command line, enter:

cd /usr/ecs/ <*MODE*>/COTS/autotree/autouser

a. **<MODE>** is current mode of operation.
   1. TS1 - Science Software Integration and Test (SSI&T)
   2. TS2 - New Version Checkout
   3. OPS - Normal Operations
b. "autouser" is the directory containing the AutoSys configuration files.
c. The path may vary with the specific site installation; e.g., the **autotree** directory may be identified as **autotreeb** at some sites.

6 At the UNIX command line prompt enter:

vi config.<*AUTOSYSINSTANCE*>

a. The configuration file is displayed by the vi text editor.
b. Although this procedure has been written for the vi command, any UNIX editor can be used to edit the configuration file.

7 Using vi editor commands find **DBMaintTime = <*hh:mm*>**.
a. **<hh:mm>** refers to the current database maintenance time.

8 Using vi editor commands replace the current database maintenance time with the desired time.
a. The time may already have been changed to some value other than 03:30 (e.g., **DBMaintTime=04:00**).
b. The following vi editor commands are useful:
   1. **h** (move cursor left).
   2. **j** (move cursor down).
   3. **k** (move cursor up).
   4. **l** (move cursor right).
   5. **a** (append text).
   6. **i** (insert text).
   7. **x** (delete a character).
   8. **u** (undo previous change).
   9. **Esc** (switch to command mode).

8 Press the **Esc** key.

9 To save the configuration file enter:

ZZ

a. New database maintenance time is entered and saved in the configuration file.
b. UNIX prompt is displayed.

Table 14.6-2. Change AutoSys Event Processor Database Maintenance Time - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Log in to the ECS System using secure shell	**Enter text, press Enter**
2	Enter **cd /usr/ecs/<MODE>/COTS/<autotree>/autouser**	**Enter text, press Enter**
3	Enter **vi config.<AUTOSERV_INSTANCE>**	**Enter text, press Enter**
4	Use vi editor commands to find **DBMaintTime = <hh:mm>**	**enter text**
5	Use vi editor commands to replace **<hh:mm>**	**enter text**
6	Press **Esc**	**enter text**
7	Enter **ZZ**	**enter text, press Enter**

14.7 Tuning System Parameters

The values assigned to system parameters affect the functioning and performance of the system. When certain parameters are modified, the system operates differently. Changes to some other parameters may not appear to affect the system although there may in fact be subtle effects. In any case before system parameters are modified it is essential to understand what will happen to system functioning and performance.

Many system parameters may be subject to control by Configuration Management (CM). When making or requesting a change to system parameters, the CM process at the particular site must be followed (if applicable).

Values are assigned to Data Processing Subsystem and Planning Subsystem parameters in the following databases:

a. PDPS database.
b. Configuration Registry database.

The Configuration Registry Server provides a single interface (via a Sybase server) for retrieving configuration attribute-value pairs for ECS servers from the Configuration Registry database. When ECS servers are started, they access the Configuration Registry Database to obtain needed configuration parameters.

The Database Administrator has access to a Configuration Registry GUI for viewing and editing configuration data in the database. Therefore, it is necessary to coordinate with the Database

Administrator when changes to configuration parameters are needed. Also, as previously mentioned, changes to configuration-controlled parameters are subject to approval through the site CM process.

Default and adjusted values assigned to system parameters vary from site to site. For guidance concerning the assignment of values to parameters included in the Configuration Registry refer to document 910-TDA-022, Custom Configuration Parameters. The document is available at http://cmdm.east.hitc.com/baseline/ under "Technical Documents."

The following parameters are examples of parameters whose values may be modified to enhance system functioning or performance:

a. AppLogSize
   1. Maximum size of the application log (ALOG) file for a particular application.
b. AppLogLevel
   1. Level of detail provided in the ALOG file for a particular application.
c. DebugLevel
   1. Level of detail provided in the debug log file for a particular application.
d. DpPr_MAX_RETRIES
   1. Number of retries to the Science Data Server for acquires/inserts before giving up.
e. DpPr_WAIT_PERIOD
   1. Time (in seconds) to wait between retries to the Science Data Server.
f. DpPrRM_MAX_RETRIES
   1. Number of retries when creating a Data Manager object (trying to allocate).
g. DpPrRM_RETRY_PERIOD
   1. Amount of time (in seconds) between retries when creating a Data Manager object (trying to allocate).
h. DpPrMaxConcurrentDPRs
   1. Maximum allowed jobs for each job class (i.e., routine, on-demand, reprocessing).
i. DpPrMinConcurrentDPRs
   1. Minimum allowed jobs for each job class (i.e., routine, on-demand, reprocessing).
   2. Not currently used.
j. DpPrAutoSysMaxDPRs
   1. Total number of jobs (e.g., 100) allowed in AutoSys.
k. DpPrDeleteFailedPGEJobs
   1. If TRUE, failed PGE Jobs are removed by Job Management, as necessary, when space is needed for another job that is ready to run.
   2. If FALSE (the usual value), failed PGE Jobs are left in AutoSys. They must not be removed manually from AutoSys, however, since they will be removed by the Production Request Editor when a Production Request or DPR is cancelled.
l. DBConnections
   1. Number of connections needed by a particular application. Subscription Manager maintains only **one** connection to the database.
m. SleepDelayForFailures
   1. Amount of time (in seconds) to wait before reprocessing failed notifications. If the specified value is less than 60, a default value of 60 seconds would be assumed.
n. SleepDelayForTimers
   1. Amount of time (in seconds) the Subscription Manager should sleep between checking for expired timers. It should be set to the minimum amount of time a timer will be set for at this DAAC. The minimum it can be set to is 60 seconds.

o. SleepDelayForExp
   1. Sleep delay for expiration thread in seconds (e.g., 86400).
p. SleepDelayForCmp
   1. Sleep delay for completion threads in seconds (e.g., 300).

NOTE: When the value assigned to a parameter has been changed and saved in the Configuration Registry, the modified value does not take effect until the affected server has been restarted. For example, if the debug level for the Subscription Manager log has been changed from "2" to "3" in the Configuration Registry, the modification does not affect the recording of data in the log until after a warm restart of the Subscription Manager (at which time the server would read the parameters in the Configuration Registry).

Table 14.7-2, below, provides an Activity Checklist table of System Tuning activities.

Table 14.7-2. Tuning System Parameters - Activity Checklist

Order	Role	Task	Section	Complete?
1	Resource Planner/ Production Planner/ Production Monitor	Monitor the Load on Processing Resources	(P) 14.7.1	

14.7.1 Monitor the Load on Processing Resources

The Production Planner and Production Monitor should work with the Resource Planner to make optimum use of processing resources. The Resource Planner allocates the disk partitions, CPUs, and RAM available for processing among the active modes (e.g., OPS, TS1, TS2). The Production Planner and Production Monitor monitor the load on the processing resources.

The Resource Planner assigns the bulk (typically 60% - 80%) of the processing resources to the OPS mode. The remainder of the processing assets are divided among the modes used for SSI&T and new version software checkout.

The Production Planner and Production Monitor monitor the load on the processing resources to identify whether the actual load is appropriately distributed among modes. They inform the Resource Planner of under- or over-use of resources as allocated.

When monitoring the load on the processing resources, the Production Planner and Production Monitor should take the following considerations into account:

a. Disk space allocated to OPS mode is likely to be used to capacity.
b. Disk space assigned to the other two modes may not fill up.
c. There is no one-to-one mapping of CPU allocation with actual CPUs on the science processor.
d. The operating system (OS) takes care of true CPU and RAM allocation.
   1. Actual CPU usage during processing is limited by the OS.

2. If ten CPUs have been specified for a particular mode, only ten Data Processing Requests (DPRs) can be running the Execute job at a given time.
3. What is really being defined is the maximum number of DPRs that will execute at a given time.

e. CPUs can be over-allocated or under-allocated as necessary to get the most out of the CPUs on each science processor.
f. If monitoring indicates that the processor is underused when OPS mode is at full processing capacity, the number of CPUs allocated to OPS mode could probably be increased.
g. If the science processor is at full capacity when OPS mode is at full processing capacity (and the processor may be overworked) the number of CPUs allocated to OPS mode should be reduced.
h. Random-access memory (RAM) is subject to the same considerations as CPUs.
   1. RAM can be over-allocated or under-allocated as necessary to get the most out of the memory on each science processor.

This page intentionally left blank.